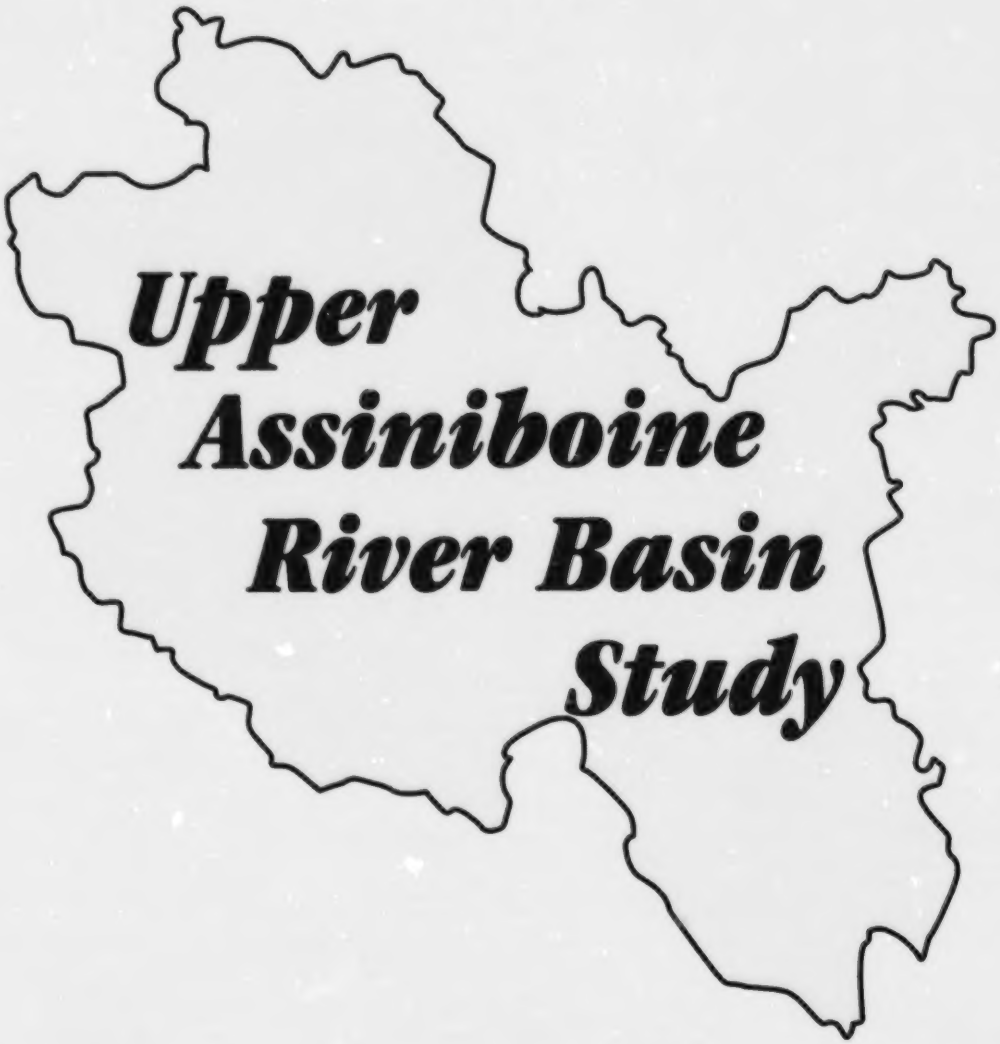
Public Involvement



Upper Assiniboine River Basin Study

Prepared by:

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101-01930/

Upper Assiniboine River Basin Study

Appendix F

Public Involvement Report

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On behalf of Sask Water and Manitoba Conservation Gordon Mills acted as Chair for the six Local Watershed Committees who participated throughout the Study. The contribution of these public representatives is acknowledged and was appreciated.

November 2000

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1 Planning For Basin Citizen Involvement

In our communities of today, people are more sagacious and better informed than ever before. All activities that impact on the physical and human environment experience a sophisticated and informed community response. Individuals and organized groups who have a substantial concern for their environment also expect to participate in planning and decision-making.

Fred Durrant, a former Director General of Inland waters for the Government of Canada, following his experience with several river basin studies on the prairies, commented in 1985, at the 'Face of the Prairies in 2000' conference that, "development, construction, environmental planning, and decision making must occur in the full view of the public." This is one of the most enlightening comments ever made concerning environmental change.

Participation in a study of this nature is considered a right by affected citizens, and not a privilege. Participants, however, have a responsibility to inform themselves about problems, activities, and projects that will affect them, while the study proponent has the responsibility to provide this information. Communication of information, ideas and opinions must be available to everyone who is affected.

One of the important features of the Upper Assiniboine River Basin Study was the acceptance of the principle that the public can help, that they have a right to express their opinion, and that they have a responsibility to learn and understand the details and scope of the Study. To assure that this process would contribute positive reinforcement for understanding and change, a series of public Open House meetings were held and interactive Sub-Basin Local Watershed Committees were formed.

The interaction within the Committees was an opportunity for the public and the Study technicians to talk with each other to achieve the best possible understanding of the problems of the Basin. This interaction also reinforced the pre-eminent right of the participants to speak out on any issue or activity that affected their human or physical environment. Bringing the public into the decision making process at the very earliest point was considered a meaningful step toward preparing a water management plan that would enjoy public support.

An additional feature of this active involvement by the people was the opportunity to explore a wide range of ideas and uncover solutions that may not have been included in the initial technical examination. Within this public there were many highly informed, imaginative and creative people who stood ready to contribute to useful conclusions. The overall effect of adopting the information from the Basin residents reinforces the benefit and conclusions of the Study.

Figure 1
Local Watershed Committee Meeting

2 Purpose and Issues

The Memorandum of Understanding, signed on October 22, 1996, by Environment Canada, Sask Water and Manitoba Conservation states the following rationale for the investigation of the Upper Assiniboine River Basin:

1. Concern over water management has been widespread throughout the Upper Assiniboine River Basin in Manitoba and Saskatchewan for many years;

2. There is uncertainty regarding water supplies required for sustainable development for municipal, industrial, agricultural and recreational purposes;

3. There is conflict between agricultural and other drainage interests and downstream landowners suffering flood damage;

4. There is concern in Saskatchewan and Manitoba over the disappearance of valuable wetland habitat;

5. Management of the Basin's water resources is hampered by uncertainties regarding the hydrologic and ecological processes and effects;

6. Saskatchewan and Manitoba, as detailed in the 1969 Master Agreement on Apportionment, have a responsibility to cooperate to the fullest extent on the management of waters flowing from Saskatchewan to Manitoba, and shall enter into arrangements, agreements and accords with each other and with the Government of Canada to best fulfill their responsibility;

7. The Prairie Farm Rehabilitation Administration (PFRA), given its historical involvement in water development activities in the Basin and their recent mapping initiatives, have an important role to play in the Study;

8. Environment Canada has a strong interest in the application of ecosystem-based approaches and principles of both habitat and wildlife conservation and in the transboundary issues affecting both Saskatchewan and Manitoba, and therefore has an important role to play in the Study;

9. The issues affecting water management in the Upper Assiniboine River Basin are a concern shared by Saskatchewan. Manitoba and Canada; and

10. The diversity and persistence of issues and public demand for their resolution make the development of a framework plan for water management in the Upper Assiniboine River Basin a goal that merits immediate attention.

The Study was officially launched with a series of Open House Public Meetings in the Basin held in Russell and Roblin, Manitoba, and Yorkton, Togo, Preeceville, Canora and Sheho, Saskatchewan. The Open Houses ran from November 19 to December 3, 1996. The attendance of 275 people, and the concurrent media coverage, indicated a substantial interest in the Study.

These initial Open Houses presented a brief overview of the Upper Assiniboine River Basin including a discussion of water management issues in the Basin, the proposed planning process, the planned public involvement activities, and an opportunity to view exhibits on drainage, flood control, water supply, water use, and water quality. Representatives of the provincial and federal agencies involved with the Study were available at the exhibits to discuss issues and concerns. Afternoon and evening sessions were held at each location. The public in attendance was invited to express their interest in participating in the Local Watershed Committees, planned for each 'sub-basin'. The Committees would function for the duration of the Study.

During the initial Open House presentation to the public, several concerns were expressed and issues raised. These concerns and issues, listed here, provided the initial overview of public concerns that the Study should address.

2.1 Drainage and Flood Control

1. Concern was expressed that the drainage moratorium would not allow farmers to address flooding problems, resulting in significant economic loss.

2. The balance between drainage and the environment was raised. A reduction or restriction in drainage development as a result of the study would impact the economic viability of a farming operation.

3. It was suggested that the use of control structures to attenuate peak flows upstream of the Town of Langenburg would be a beneficial strategy to protect the Town from flooding.

4. A concern was raised that the local watershed committees would not have enough representation from the agricultural community.

5. A concern was raised that the Department of Highways should be involved in the Study on the basis that highway structures impact on drainage and overall Basin hydrology.

6. The issue of spring flood forecasting was raised. The opinion was that the forecasting could be improved, especially as it relates to the operation of the Shellmouth Dam.

7. A concern was raised that channel clearing and drainage activities within the Blackbird Creek Watershed had caused erosion problems on agricultural lands in the Assiniboine River Valley.

8. There was a concern that channel clearing activity along Smith Creek would cause increased flows and erosion in Manitoba.

9. There was concern over Ducks Unlimited land acquisition program.

10. There was concern that Manitoba was not enforcing The Water Rights Act.

11. There was concern that the two provinces could not work together co-operatively on water management.

12. Concern was expressed by a Rural Municipality official that the Province of Manitoba will be downloading water management responsibilities without providing adequate financial resources.

13. Farm operators downstream of the Shellmouth Dam raised concerns regarding the inadequate channel capacity of the Assiniboine River and the associated agricultural damage sustained in the floodplain.

14. Flooding problems associated with beaver dams and the need for a program to assist in the control of beaver populations were a concern.

15. Rural Municipalities replacing culverts with no consideration to the capacity of downstream culverts was a concern.

16. The need for a program which would provide incentive to trap beavers to control the population was suggested.

17. There was a suggestion to divert Assiniboine River flows into the Swan River to reduce flooding impacts downstream.

18. There was concern that the formal complaint process took too long to complete and that the excessive time delays had in part, led to unauthorized private drainage activities. It was suggested that changes be made to speed up the process and empower Sask Water officials to readily enforce Decisions and Orders.

19. There was a suggestion to form local watershed committees to deal with local water management concerns and problems with, Sask Water acting as coordinator/facilitator for the local committees.

20. There was a suggestion to impose the use of control structures to minimize the effect of on-farm drainage and reduce downstream flooding impacts.

21. There was a question on how Study results will be communicated to the public.

22. There was a concern with the conflict between the need to preserve wildlife habitat and the need for channel clearing to reduce flooding and erosion impacts on agricultural land.

23. There was a concern that flooding at Fishing Lake may have been caused by drainage activities in the local watershed.

24. There was a concern raised that increases in flow resulting from a project to lower Fishing Lake would have downstream impacts, specifically at Newburn Lake.

25. There was a concern raised regarding the Kamsack Flats flooding situation.

26. There was a comment on the need to develop the land (i.e., land clearing and drainage) to accommodate large modern machinery.

27. There was a concern that there was no legislation to protect landowners from flooding problems created by beaver dams or other obstructions on adjacent lands.

28. There were concerns raised over the flooding situation at Fishing Lake. It was noted that the local people are in the process of establishing a Watershed Association Board to facilitate construction of a project to resolve the problem.

29. There was concern with drainage projects located immediately upstream causing flooding problems.

30. There was a concern raised with respect to the general taxing powers of Conservation Area Authorities against individuals who were not realizing direct benefits from the works.

31. There was a suggestion that there were some good sites in the area for small headwater storage dams, spring back flood projects and forage programs, but that there was some confusion about where to get money to help build such projects.

2.2 Water Quality

1. Concern was expressed about the protection of the groundwater source for the Town of Sturgis.

2. Concern was raised that drainage of wetlands was impacting downstream water quality.

3. Concern was raised that livestock watering and manure disposal along watercourses was impacting downstream water quality.

4. Concern was expressed that drainage impacts endangered species such as the Big Mouth Buffalo Fish.

5. A concern was raised that low winter water levels on Lake of the Prairies impacted fish.

6. A concern was raised that drainage caused a loss of riparian habitat and increased bank erosion.

7. It was observed that the City of Yorkton's water quality monitoring sites were not shown on the Water Quality Monitoring map.

8. A concern was expressed that drainage caused increased sediments, pesticides and nitrates to enter Good Spirit Lake.

9. A concern was raised regarding potential contamination of shallow aquifers in the Rural Municipality of Saltcoats.

10. Concern was expressed about the loss of spawning areas, erosion and habitat loss for fish.

11. A concern was raised about algal blooms on Lake of the Prairies.

12. The impact of agricultural activity on water quality was questioned.

13. A concern was raised that the Town of Roblin's effluent disposal would impact the water quality on the Shell River.

14. A concern was expressed about potential shallow aquifer contamination on the Saskatchewan side of the Basin.

15. Concern was expressed about the operation of Shellmouth Dam.

16. Concern was expressed about water quality of the Assiniboine River above Kamsack as a result of the Indian Reserve lagoon operation.

17. A concern was raised that fluctuating water levels on Lake of the Prairies affected the fisheries resource.

18. Concern was expressed about manure management in the watershed.

19. The issue of livestock wintering on creeks was raised.

20. Concern was expressed about the water quality of on-farm water supplies from shallow aquifers.

21. Concern was expressed about the protection of the quality of the Sturgis water supply. The infiltration well used for the source of water supply is near the river.

22. Concern was expressed about the impact of landfills on water quality.

23. There was a concern about the conflict between cottage owners and cattle watering.

24. The impact of agricultural pesticides on the water was questioned.

25. Concern was expressed that the water quality of Good Spirit Lake had been impacted from flooding of vegetated areas as a result of high lake levels and that pesticides and nutrients from upstream drainage activities were causing the deterioration in water quality in Good Spirit Lake.

26. Concern was expressed about the water quality of wells on Indian Reserves. It was suggested that there was a need for on-farm treatment systems to improve water quality.

27. Concern was expressed that feedlots along rivers had an impact on water quality.

28. Concern that agricultural activities were impacting water quality.

29. Concern was expressed about the Town of Roblin's effluent irrigation.

30. Concern was noted that livestock watering and lagoon discharges both contributed to water quality problems.

31. The issue of restricting livestock watering on watercourses was raised.

2.3 Water Supply and Use

1. A concern was expressed about the high water levels on Fishing and Roost Lakes.

2. A concern was raised about the deteriorated condition of the Sturgis Weir. Sturgis's water supply source is groundwater adjoining the river.

3. A concern was expressed about the loss of wildlife habitat. Questions were raised about how much wildlife habitat is needed and whether land could be purchased for wildlife and used to block drainage.

4. A concern was expressed over the loss of good wetland habitat as a result of drainage activity.

5. A concern was raised that drainage activities were having an impact on endangered species.

6. A concern was expressed over fluctuating Lake of the Prairies water levels. As a result of cottage development around the lake more stable water levels are preferred.

7. There was concern over drainage regulations.

8. Concern was expressed about the municipal water supply in the Crescent Creek area, and the possibility of a rural water distribution system was raised.

9. It was suggested that there is irrigation potential northeast of Kamsack. The Shellmouth Reservoir could be used as source of water supply. The soils were described to be fairly sandy and suited for forages.

10. A concern was expressed about inadequate compensation from waterfowl damage.

11. A concern was raised about the condition of the Shellmouth Dam and the potential for failure during a major flood.

12. The operation of the Shellmouth Dam was questioned. People were concerned about the reservoir-operating plan. It was felt the interests in recreation, fishing, cottages, water supply, and flood control were not being adequately addressed in the operation of the dam. The implementation of controlled drainage was thought to be a strategy to improve water management.

13. Concern was expressed that there were too many government regulations.

14. A concern was raised over Shellmouth Dam operations causing downstream riverbank erosion.

15. There was an inquiry about acquiring water from the Assiniboine River for irrigation.

16. A concern was raised about flooding downstream of Shellmouth Dam.

17. There was concern that Manitobans would not be fairly represented on the local watershed committees.

18. Concerns were raised about the safety issues associated with situating drainage projects in road allowances.

19. Concern was expressed about the protection and management of aquifers.

20. Concern was raised regarding the impact that drainage into Kamsack Creek has on downstream landowners.

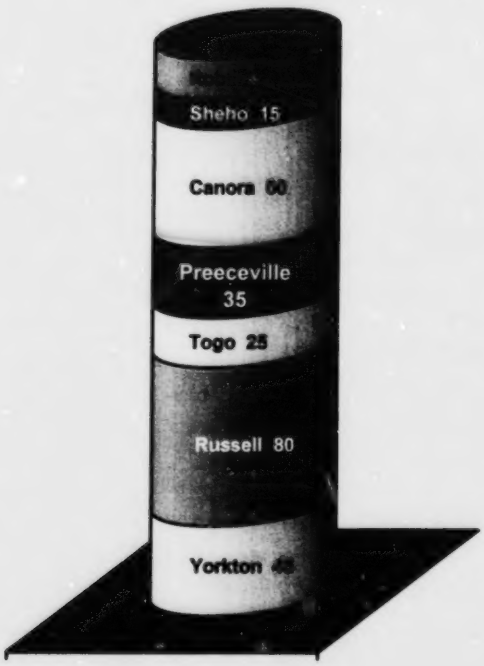
21. Concern was expressed about the water supply and its quality on the Cote, Key and Keeve/Roost Indian Reserves. The reserves' source of water supply is the Assiniboine River, and is not provided with adequate treatment. The possibility of a rural pipeline association was discussed.

22. A need for a water supply source for snow making at the Duck Mountain Regional Ski Hill was expressed.

23. Concern about the quality and quantity of the Town of Canora's water supply was expressed.

24. Concern was expressed over the high water levels on Good Spirit and Fishing Lakes.

Figure 2
Attendance at Open House
Public Meetings - 1996
Total Attendance at all the Open House Meetings was 275



3 Local Watershed Sub-Basin Committees

At each Open House, questionnaires were distributed which included the opportunity for residents to express interest in participation on the local watershed committees. Expressions of interest were to be received by the Study Directors on or before December 15, 1996.

Specific interest groups that did not respond but were viewed to have an important role to play in the study (First Nations, nature groups, urban and rural municipalities, etc.) were contacted by the Study Directors and asked to participate. This phase was completed at the end of December 1996.

The local watershed committees were structured to include one representative from each group that had an interest in the management of the area's water resources. There were provisions for some individual residents who were not affiliated with a specific group to have representation on the committees.

From the initial candidate list, the Study Directors selected potential committee members by applying the guidelines noted above, with a targeted committee size of ten to fifteen members.

To assist the Study Directors to ensure that each interest had representation or that an interest group was not excessively represented, a temporary Working Group was established to assist in the selection process. The Working Group was composed of representatives of the agencies on the Management Committee (typically staff from regional offices who were aware of the issues) and individuals resident in the local watersheds. Input from others was also sought as required.

The recommended composition of the Local Watershed Committees was submitted to the Management Committee for approval in January 1997. The initial meetings of the local watershed committees were held during the middle of February 1997.

Those who had expressed an interest in participating on the committees but who were not selected were advised of the reason. At that time, an offer to submit a written appeal for consideration by the Management Committee was extended to those individuals.

Although continuity of committee membership had advantages, resignations or lack of attendance were considered as an opportunity for others to join the committees over the course of the Study. In only a very few instances however, did new members join the Committees and this only occurred in the Committees that were not 'full'.

Local Watershed Committee Terms of Reference

Committee Membership

Members were invited by the Management Committee to join the Local Watershed Committees. Each member could name an alternate member to participate in study activities on his/her behalf.

Responsibilities

Provide input to the various steps in developing a basin management plan. These steps include:

- Identifying issues and setting objectives to improve water management;
- Developing and evaluating water management strategies and recommending improved water management strategies;
- Representing the interests of the Basin residents by communicating local concerns and local knowledge of the water and related resources; and
- Promoting an understanding of water and related resources in the Upper Assiniboine River Basin by communicating with the technical committees, local residents and interest groups.

Potential Activities

- Meetings with the technical working committees or with other Basin residents and interest groups;
- Field tours of areas of interest with technical committees, Basin residents and other local watershed committees; and
- Attendance at seminars or workshops to refine technical investigations and develop broad awareness of Study findings.

Frequency of Meetings

Meetings were to be called by the Study Directors as needed, with input from the Local Watershed Committee members. The Study was expected to run for three years and planned completion was for late 1999.

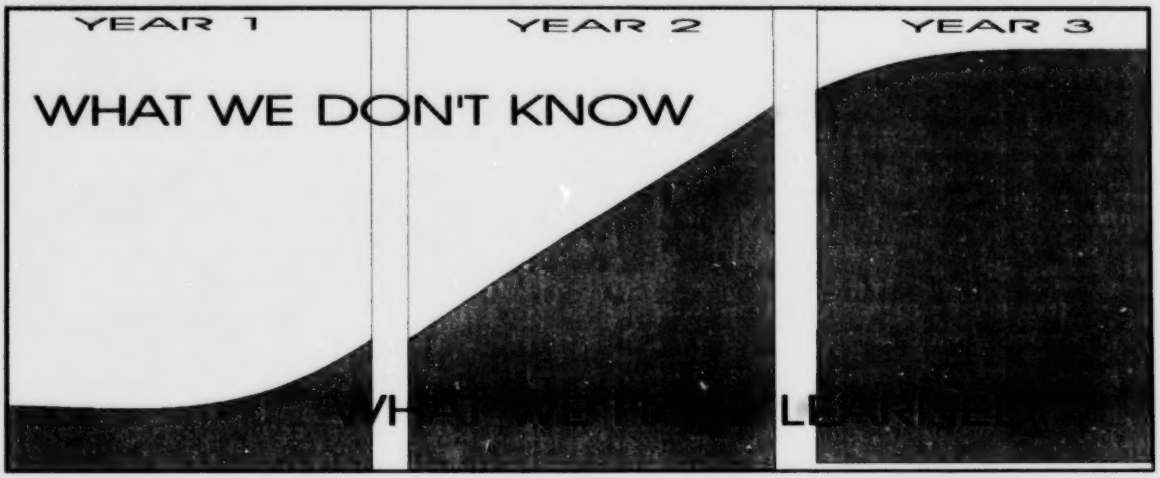
Remuneration

Members were responsible for their own travel, accommodation and meal costs.

To effectively provide a good flow of information and receive open commentary from the participants the committees were provided an independent chairperson, technical support, and access to the Study Directors who attended every meeting.

Committee meetings went through three planned phases that led to better understanding of the *conflicts and uncertainty of water management in this river Basin.* Figure 3 shows how the process worked and represents how both the committees and the technical staff learned about the basin from each other and from investigations of the problems.

Figure 3
Flow of Information Curve



Committee meetings were called by the Study Directors whenever new information was available and attendance remained steady with members attending whenever they could. There were however, some conflicts with local activities and farming, business, or personal responsibilities.

Over the three-year period that included seventeen meetings for each Committee, one tour of some of the critical areas of the Basin, a 'Year One Work Shop' and a 'Strategy Workshop' it was notable that there were very few changes in Committee membership. Members participated actively and kept Study staff informed about local opinion and concerns. During the latter part of the Study, some Committees were combined at a central location to provide better access for the Study staff, but as a result, attendance dropped off, and final meetings to discuss solution strategies introduced at the Strategies Workshop were located in the original locations to ensure the best opportunity for member attendance. It is worth noting that several members commented that they felt "more comfortable" discussing issues in their local Committees. While some Committees had high attendance the average attendance for all Committees, throughout the Study was just above 65 percent.

For most members, the Local Watershed Committees provided a useful venue to explore the need to find a solution to the many water management concerns in the Basin.

The Committee members were provided 56 background papers, 18 information presentations and many participated in hours of discussion.

At the last Local Watershed Committee meeting, members were surveyed regarding the value of the Study and the value of their involvement in the Study.

Responses to the following questions are shown in Figure 4. In the scale of 0-10, 0 represents least satisfactory and 10 represents most satisfactory.

- Information:
  Was the information provided clear, informative and complete?

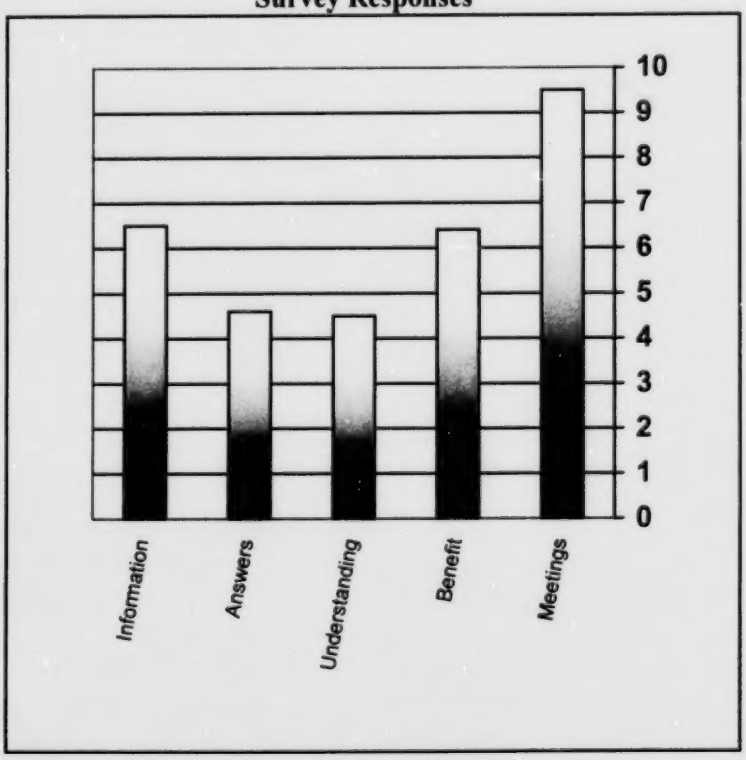
- Answers:
  Were all my questions and comments answered and acknowledged?

- Understanding:
  Was there enough information provided to give a better understanding of the Basin and the problems involved with water management?

- Benefit:
  Was there a benefit to participating in the Study?

- Meetings:
  Were the meetings properly conducted?

Figure 4
Survey Responses



4.0 Local Watershed Committee Meetings

4.1 February 1997 - First Committee Meeting
Topic: Study Process and Role of the Local Watershed Committees

At the first meetings of the Basin Watershed Committees the structure and process as well as the scope and methodology of the Study was explained. Handouts included:

- Rules for the establishment of the Local Watershed Committees;
- The role of the Local Watershed Committees;
- Upper Assiniboine River Basin Study Objectives;
- Local Watershed Committee Representatives;
- Study area map and local watershed map; and
- Report on the 'Open House Public Meetings' Issues and Concerns.

In addition to the comments received at the Basin-wide Open House program, the following supplemental concerns were expressed.

Upper Assiniboine Local Watershed Committee

In this Committee area beavers have changed the River. Years ago you could catch a fish anywhere but now, because of the beaver dams, the fish cannot migrate and there are none around. The water gets stagnant in pools when they dam off the flow. The beaver was reintroduced into this area from the Cypress Hills in the 1950s. Around the turn of the century, a good living was made from trapping beaver but a disease wiped them out until 1948 or 1949 when they were re-introduced. As you walk around in this country, you can see the remains of old beaver dams so there were a lot of them in the early days. The beaver was always in this country but they get over populated and then die out. Last year and a few years back, 'beaver fever' was identified in this area, and the area was declared a beaver nuisance area so you could shoot them any time you want. It was felt desirable to thin the population down to control the population. Beaver bounty programs have been used but not all rural municipalities have a program so they are not as effective as they might be. Characteristically, the beaver will clear the white poplar back about 30 meters from the river and then they will move on, except, that now they seem to have started on the maple trees. Solutions ranging from dynamite to otters have been suggested for beaver control.

Upper Whitesand Local Watershed Committee

In the Upper Whitesand area the incidence of beaver damage continues to cost the rural municipalities a considerable amount of money. Further down the Whitesand, beaver dams have been blasted where the water flow was held up. The water was so high in the area it was not until later in the season that access to the area to clear the dams was possible. Water quality may have been affected but there are no strong indications that this was the case.

Whitesand Local Watershed Committee

In the Lower Whitesand area, the beaver impacts are considered very serious. Several programs have been developed to control the beaver. In 1996, one municipality hired a local aboriginal trapper who trapped the beaver in the area and it is reported that he had over 200 pelts. The trapper receives a bounty for the tail and is allowed to keep the pelts. In general, the municipalities in this area offer a $10.00 bounty for beaver tails. To achieve maximum results from the bounty program all municipalities need to participate. In the past, there was assistance available to blast beaver dams but that program has been discontinued. The average damage costs incurred by each municipality can be in the neighborhood of $10,000 to $15,000 a year. This figure does not include the damage to farmers and private property. Currently there does not appear to be any guidelines or legislation that recognize the problem or that provides universal control for both the establishment of sanctuaries or for eradication programs. If the beaver were allowed to reproduce unchecked and unregulated, the damage and spot flooding would be very serious.

Yorkton Creek Local Watershed Committee

The Yorkton Creek Committee reported that the area has an abundance of waterfowl, and the 'Ducks Unlimited' project makes a significant contribution to the population. During the past few years the water has disappeared from some areas but with the snow banks the way they are this year we will see the return of more breeding habitat.

Lake of the Prairies Local Watershed Committee

At the Lake of the Prairies Committee, the problem of beaver infestation and the damage they do to roads, fields and poplar stands was discussed and was of general concern throughout the Lake of the Prairies area. Beavers are also credited with the spread of water borne parasites that cause an illness known as 'beaver fever' although this disease is also carried and spread by domestic farm animals and humans. The beavers, having been introduced or reintroduced into the area in the 1950s, have continued to flourish to the point that the impacts from their colonies are considered serious. Some rural municipalities are maintaining some control programs, utilizing bounties and designated hunters on a local basis but the programs are not universal throughout the area nor does any larger provincial or federal area authority support them. Another control program, intended to control their habitat by limiting the amount of water they can dam has met with limited success. Trapping and hunting the beaver for fur is currently not productive but is was suggested that there might be revival of fur demands making trapping more popular. The beaver is acknowledged as an industrious, clever, and an ongoing problem animal in this area.

Ducks and geese are creating increased impacts on crops. Currently the compensation available through crop insurance is inadequate and the amount of damage is increasing. In the last several years the migrating flyways have moved into this area to the point that it has become a morning tradition to get up about four a.m. and chase ducks off your fields. It was suggested that the impacts of new nesting areas, the return of the 'potholes' and the existence of more water are contributing to the fly over population and the crop damage they inflict.

Lower Assiniboine Local Watershed Committee

In this Committee area it was reported that the beaver damage problem exists on a large scale throughout this area. The loss of land due to beaver flooding is considered serious. For example, in about 56 kilometers of creek channel 25 beaver dams were removed. In some areas where channel clearing was done, it created local disagreement to the point that the clearing had to be discontinued. The cost of damage to the roads and culverts is currently quite substantial. The use of dynamite and trapping is not effective and it was suggested that removing beaver habitat up to 30 meters away from the channel is the only effective method. The beaver population has increased in the last eight or nine years and there are currently no beaver control programs provided by provincial or federal governments that apply to this problem. It was noted that when the fur market was viable, the beaver population was considered to be under control.

Duck habitat development is creating access problems and encouraging migrating waterfowl into the area. Large flights of geese can destroy a section of crop in no time. Currently, Ducks Unlimited in Manitoba shows active concern about agricultural production and provide a better working relationship than the same organization does on the Saskatchewan side of the Basin. It was reported that something over twenty quarter sections have been purchased by Ducks Unlimited and another six or seven quarter sections are under negotiations for purchase, to become duck habitat.

General Concerns of all Watershed Committees

Water quality was also raised as a major concern. It was pointed out by all the Sub Basin Committees that the Assiniboine River water quality is currently poor and there does not appear to be any substantial improvement in recent years.

The collective impacts of agricultural usage, domestic sewage, chemical runoff, and natural decomposition were brought to the attention of the Study. The relative impacts, therefore, of the different kinds of adverse materials, chemicals and in-flows into the river are information that would be useful as well as the uses that are made of the water resources in the area. Agricultural chemicals on the land are a problem. The runoff from fields contains residue from chemical sprays and from fertilizers used on farmland. Some investigation is needed to determine the risk to the ecosystem, the life of the various chemical combinations, and the possibility that the chemicals are deteriorating the local aquifers. It should also be understood that this area has a very short growing season and fertilizers and pesticides are needed to achieve a good crop. The Watershed Committees noted that chemical containers are everywhere and seldom make their way to the collection areas. Discarded chemical pails have been observed along the riverbanks. Neither has there been any success with creating a regulation nor has the $1.00 per can had any effect. The $1.00 container fee has gone to the chemical industry and is not apparently being used to augment the collection of containers. It was acknowledged that many people do dispose of their containers by the approved method.

Concern about the chemical runoff from fields was general not only as it affects the water but also the soil. The long-term effects on the aquifers and the runoff from chemical use in agriculture was questioned. With the reappearance of more potholes, and the inability to drain them, the risk of chemical concentration was questioned. Domestic sewage was also identified

as an area of concern that should be examined. Sewage from domestic sewage systems, and releases from village and town lagoons that are constructed on the edge of the river might be creating a problem with water quality. While it is claimed that no sewage is getting into the river, there is a lot of foam below the weir (old railway structure) in Sturgis. Concern about the sewage treatment all along the river is universal throughout the Basin. Stock watering along the river can contribute to the deterioration of the water quality, river banks and vegetation and it has was suggested that stock have better weight gains by providing them with better quality water away from the river. There are some strong indications that this part of the country is becoming 'cow' country because the freight rates are too high for grain. The change has already started in the Upper Assiniboine area.

Participation of the committees in the examination and development of land use policy and other regulatory affairs was identified by the members as an important feature for the Study to consider. It was suggested that the rural municipalities and the landowners need to have input into the local implementation of regulations and policies to ensure that any impacts, if they occur, are properly mitigated. Inundation of the land with waterfowl and wildlife can have a dramatic effect on the farm income.

In general, all Watershed Committees suggested that a partnership should be developed with the landowners and the centrally located authorities that will lead to an understanding and development of an acceptable land use balance.

Drainage of agricultural land in wet years has become almost necessary to meet farming income needs but one of these years too much water will be drained and there will be none left. It was noted that, in 1966, there was a lot of water and some people were seeing water where they never have seen it before. It was suggested that one of the essential things to be looked at in this Study is the overall effect of drainage and the creation of a balance that provides the opportunity for responsible land use consistent with each land owner's desires. What will be required is an understanding of the 'big picture' for the Basin that will allow people to continue to maintain a quality of life throughout the Basin now and into the future. It was suggested that the Study should not lose sight of the downstream impacts all the way to the confluence and including the Portage diversion. The technical findings of the Study and the local perceptions and understanding of those findings is important to everyone. The Committees felt that their input was important. This information will be 'on the table' and it would be impossible for anyone to ignore, assuring that the authorities would be aware of their concerns and suggestions. The Committees also suggested that because the river crosses provincial boundaries that positive inter-provincial performance would be required

Discussion of land use revealed that the impacts on the Basin created by logging activities will create a faster snow melt, increased silt and more natural vegetation particles in the river system. The nature of the current logging operation may be causing a greater impact then was expected. In the adjacent park area, which is partly in this Basin, 65 percent of the timber is suspected of being approved for removal. In this case, patch cutting is being used but the normal methods used on private land and government land differ. It was suggested that the forest management plan has been transferred from one that was used in the USA without consideration for local impacts.

Soil quality is also a concern as water collects on the land and during the increased wet cycle. A question was raised about the extent to which the salts are leaching to the surface over the time that floodwater covers agricultural land.

Historically, this area had cycles of fires that would wipe out the trees. Some old-timers remember seeing huge black stumps from the time when there must have been big forests throughout this area but in the late 1800s the area was completely without trees. Around 1878 there was a fire in this area that leveled all the vegetation. In recent times this growth has come back and the bush and trees trap the snow and create new runoff characteristics. Both vegetation and clearing affect the runoff. Sometimes man-made drainage is blamed when natural events are the real culprit.

Historically, steamboats used to go all the way to Fort Pelly, which suggests that the river has always been high in the spring and the old timers remember how high the water goes and what land it floods.

The Committee members pointed out that both natural and man-made events could cause problems. Ice jams, huge snowdrifts, runoff buildup, and beaver dams have changed the way the water flows. Towns, roads and development also contribute to the way the water flows. It was suggested that some study of the effect of roads and culverts should be included in the Study.

It was noted that the spring runoff in 1997 could be different because, the year before the snow was all in the bush, packed and hard, but this year it is everywhere and the snow in the bush is soft so it could melt faster. To help qualify the discussion the Committees were provided information used to estimate the amount of water in the runoff. A system called the 'Airborne Gamma Snow Survey' is used, which gives quite accurate information about the quantity of water in the Basin. This survey indicated that the upper Basin region in the winter of 1997 had 140 percent of normal moisture for this time of year. While the Committees recognized that the river has always flooded during high runoff and a prairie characteristic is that streams and rivers can 'take their banks back', it was noted that new drainage appears to have made a difference and water goes into the river faster.

Increased lake levels at Fishing Lake, which had been rising prior to 1997, were reported to be causing problems. There are sand banks along the north side that indicate that at some time the water moved the sand up there, but the highest the lake has been in known history is 585.8 meters above sea level. It was reported by a Committee member that the lake has not spilled for a long time and it has to rise 20 cm higher than it did in 1996 before it will spill. Cabins and homes around the lake were almost in the water and with a 20 cm rise there would be 150 buildings in the water. Some cabins and homes had already been moved out and the owners had received a letter that they had built in an area subject to flooding. In 1996, there was a lot of drainage that may have contributed to the high water levels. It was noted that some of the lake land had been developed in spite of advice provided to the occupants that the land was subject to flooding. In 1970 a review that determined that the land occupied by many cottages was 20 cm below the outlet. In the 1960s the level was low; in the 1970s it went up; in the 1980s, it was down at first then it rose sharply. The latest rise has been attributed to the very wet conditions in 1995. Concern was expressed about drainage into the lake and the cumulative effect of this drainage. In 1996 – 97 there was a lot of snow and more flooding impacts were anticipated. At the time of

the meeting, all the surrounding area was experiencing high water levels which would intensify the problem. Flooding on the lake was further worsened by ice moving during breakup. It was surprising that more cottages were not moved to higher ground. The high water had also damaged the roads in the area, and reduced the amount of accessible farmland. It was noted that Fishing Lake is a significant recreation center and long-term solutions are needed.

It was noted that when the Shellmouth dam was first proposed a direct benefit identified at the time was increased recreation. Golf courses, boating facilities, and parks were among the features touted by the project proponents of the time. Although many of these early ideas have never materialized, the reservoir has become a major recreation facility and during the ice-fishing season, there is concern about water levels as the reservoir is drawn down to accommodate the spring runoff. Fishers are often startled look into the fishing hole to find the water several meters below the ice. It was noted that the conflict between recreation and water management is a major concern because some local residents make their living from the recreation capabilities that have been introduced by the existence of the reservoir. It was suggested that this needs to be studied.

4.2 April 1997 - Second Committee Meeting
Topic: Technical Committees Terms of Reference and Workplans

At these meetings, the focus shifted to the examination of issues, but the meetings also provided an opportunity to review the topics of the Study. Each Committee member was encouraged to continue to discuss water related issues with their community, organizations, and friends and bring those concerns to the meetings.

At this series of meetings, presentations and discussions were provided on cattle watering and beaver control.

Upper Assiniboine Local Watershed Committee

This Committee drew attention to some additional water quality issues in their area in relation to the water quality for the Sturgis domestic supply. This water supply is from a well in close proximity to the river, in a gravel bed close to the old railway weir. The Committee had noticed that the biological decomposition in the river appeared to change the water quality throughout the year. As the well goes down the mineral deposits in the water increase and there is a lot of iron in the water. It was requested that the Study look at the need for consistent water quality throughout the year and into the future. Information regarding the working standard for surface water quality, as well as the existing conditions of the water in the river, was requested.

Upper Whitesand Local Watershed Committee

Comments were received concerning Fishing Lake water levels that were continuing to create problems. People of the area were requested to be looking at lowering the spillover level into the Whitesand River. The predicted levels in 1997 were 43 centimeters higher than in 1996, which would cause all kinds of problems. In cooperation with the Yorkton and Moose Jaw Offices of

SaskWater, residents of the area had endeavored to get majority support to develop a project to bring the level of the lake down. They were attempting to form a watershed association and had received good support from the rural municipalities and the people of the area. With the watershed association, they felt they would be able to develop a long-term solution that would take the whole river system into account. They were very concerned about the downstream impacts and were endeavoring to do everything right. It was noted that the Rural Municipality of Foam Lake was examining its liability before approving the creation of a Conservation and Development (C&D) area.

Figure 5
Encroaching Water at Fishing Lake in 1997

Lower Whitesand Local Watershed Committee

Comments were received at this Committee meeting regarding the impacts on land, and land values when water sat on the land for long periods, which leached the salts to the surface. This land had become less productive and, in some cases, non-productive. This was a major concern in this area. Recreation impacts and increased erosion were both associated with the high water levels on Good Spirit Lake.

Yorkton Local Watershed Committee

This Committee presented additional topics for consideration.

- Watershed wildlife management;
- Aquifer management;
- Water usage;
- Artificial aquifer recharge;
- Regional and district water distribution/supply and wastewater treatment;

- Role of agencies;
- Saskatchewan Research Council (SRC);
- Saskatchewan Environment and Resource Management (SERM);
- Prairie Provinces Water Board (PPWB);
- Saskatchewan Water Corporation (SWC)
- Long-term versus short-term goals and objectives;
- Sensitivity mapping;
- Land use planning; and
- Agricultural uses, livestock, pesticides, and herbicides.

The Committee commented that, in consideration of the fact that 'glacial potholes' were a natural feature of the area, and that there was about 15 metres of till on top of the aquifers, there was a concern about aquifer recharge containing contaminants. Some new chemicals used in the livestock industry, identified as pseudo estrogens have been getting into the water system, and could be causing hormone related diseases.

Lake of the Prairies Local Watershed Committee

The Lake of the Prairies Committee requested that they be provided with information regarding the working standard for surface water quality and the existing conditions of the water in the river. While it was recognized that the Study was just getting underway, the outline of the water quality component of the Study was requested along with the water quality objectives. Beaver fever was discussed further and more information was presented that supported the contention that Giardiasis (beaver fever) can be spread by any animal, including humans. The information went further to indicate that this microscopic parasite called 'Giardiasis lamblia' has infected humans and animals for years. The condition was popularized and called "beaver fever" when the Banff water supply was infected and tourists from around the world had their first experience with the parasite.

Concern was raised for future land use practices and the impacts on the river system.

The Lower Assiniboine Local Watershed Committee

The Committee commented on water sampling done during the runoff period. It was pointed out that impurities and pollutants are so diluted during this period that the samples were of little use. Given the financial restriction placed on water sampling because of high analysis costs, it was suggested that the water quality samplers pay particular attention to the timing of their sampling.

Under the waterfowl heading, with reference to the comment about encouraging waterfowl into the area, it was pointed out that waterfowl historically migrated into this area in far greater numbers. Several comments about the historic flyways for migrating geese suggested that the pattern changed from wet to dry years. The availability of information regarding this pattern was to be researched by the Study.

Regarding the beaver issues, it was noted that in some areas the beaver population had reached such high levels that they were living in dugouts. It was also noted that beaver had been known to drag or float their food and dam materials as far as a quarter of a mile.

The effects of water sitting on soils and the effect on water quality when the water finally runs off are concerns. It was suggested that it would be helpful if the appropriate technical committee could address this question.

Another concern suggested for examination was the changes in riverbank erosion and channels resulting from runoff water or flood conditions. Useful information associated with this question would be the channel capacity along the Assiniboine River and runoff volumes throughout the available period of record.

Interest was expressed in the amount and rate of percolation and evaporation of pond water in the area. It was noted that this area has a solid mineral layer close to the surface. It was further suggested that some gauges could be installed on a couple of area ponds to gain this information.

The suggestion was put forward that the Committee would benefit from a discussion on the existing laws, regulations, and legislation that govern activities in the Basin. It was further suggested that it may be premature to examine existing laws before the problems and solutions had been determined by the Study. As a first step, the provincial records were to be searched to see if a compilation of existing water related laws and regulations was already available. The Committee requested a meeting focused on the legal aspects of this Basin.

There was interest in the history of flooding in the valley before and after the construction of the Shellmouth dam. Five years out of nine after construction there was flooding during the snow melt period. Flooding was now occurring later and lasting longer. When the river ran high all summer, it affected the ability of the valley land to dry out. There was a request for the record of releases from the reservoir for the period of operation to date. Information was further requested on the flows from all tributaries into the system, in both Manitoba and Saskatchewan.

To augment the records for the study, several members volunteered to read the flow gauges in the area.

Following a presentation on Beaver Control by Adam Smith, discussion revealed that beaver dams had created flash flooding when excessive runoff had caused their dams to fail and, on the other hand, removing the dams in advance by channel clearing had caused faster runoff with related downstream consequences.

It was also reported that beaver had damaged crops through expansion of their diet or their dam building materials. One member of the Committee indicated that they had lost 10 to 12 hectares of crop in the fall of 1996.

Beaver were reported to be the only wild animal (except humans) that create their own habitat by seeking out a water flow and creating a pond. While the Beaver population was known to be increasing, actual numbers were not available. The records were to be examined with a view to

determining if there were population counts or numbers available. Interest was also expressed in the duck and goose populations.

It was noted that, the existence of beaver on the land was virtually at the discretion of the landowner. In Saskatchewan, if there was an apparent large population in an area, the rural municipalities could declare the beaver a nuisance and then anyone could trap or destroy beavers on their own land.

It was further noted that there was no program that provided protection for beavers. A letter received by one member of the Committee, however referred to a section d, paragraph 4, which stated that; "....the district conservation officer, will prescribe a minimum beaver removal objective to achieve population control on channel sections designated by the municipality." It was questioned whether a conservation officer who designated a population number has the power to enforce that ruling. This question remained open for further definition. The Committee was advised that, in northern areas where fur harvesting remained a vocation, the maintenance of a population base was important. In some of these areas harvesting quotas had often been established.

The Committee members noted that there had been a radical increase in nesting geese in the area.

River management information was provided to all Committees. Under the Prairie Provinces Water Board agreement, provincial river flows were subject to an apportionment agreement set many years ago that required a minimum of 50 percent of the water that naturally flowed in Saskatchewan to be passed to Manitoba. This rule would only be significant during drought conditions and when storage facilities existed that could effectively restrict more than 50 percent of the natural flows from crossing a provincial border. The physical capability to do this did not exist in this Basin. Somewhere in the area of 95 percent of the water from the Upper Assiniboine system in Saskatchewan would be regularly passed to Manitoba.

4.3 June 1997 - Third Committee Meeting
Topic: General Water Resources – Overview by Drainage and Flood Control Committee

At this series of meetings the Committees unanimously agreed that a Flood Reduction Project Proposal should be developed by the Fishing Lake Group with the assistance of Sask Water and if necessary, Manitoba Conservation. This was on the understanding that the Fishing Lake Group would return to the Committees with their detailed proposal before any works are approved.

Upper Assiniboine Local Watershed Committee

The Committee pointed out that introducing water from Fishing Lake into the Whitesand, which could cause a more continuous flow, would result in improvement of the overall water quality in the river. They went on to say: "a person has to really feel sorry for those folks, having their

homes and summer cottages flooded and damaged. It was like a mini-Winnipeg only worse because the water has no place to go."

Upper Whitesand Local Watershed Committee

The Upper Whitesand Local Watershed Committee noted that Fishing Lake is in this watershed and the Committee was well informed about the problem. It was reported that there was considerable concern about the loss of property, facilities and recreational income because of the flooding. Committee members from the area reported a considerable amount of depression and stress developing among the folks who had lost, or could lose their homes and investments. The following questions and concerns were raised for consideration in the proposal:

1. What will be the funding formula for the actual homeowners, property owners, towns, villages and the local rural municipalities?
2. Who will incur the management and operation costs?
3. Who will maintain the project?
4. What will be the structure and decision making process of the Watershed Association?
5. What liability do the rural municipalities have?

It was reported that all these questions would be addressed by the Fishing Lake Watershed Association and would be included in their proposal. The Association indicated that the problem was urgent and needed immediate action. The Association stated that they intended to "pull out all the stops" to get this project underway. The Association hoped to get work underway sometime in July of 1997.

Lower Whitesand Local Watershed Committee

The Committee noted that the circumstances that resulted in the application for an exemption to the moratorium on drainage for Fishing Lake also exist on agricultural land. Flooding had had the same impact to the farmers but they were not as concentrated and therefore did not receive the same amount of attention.

The Committee suggested that new structures and re-built structures around the lake should be at an elevation far enough above the historical high water level to insure safety from flooding, even after the drainage channel was in operation.

The Committee raised the following concerns and questions:

1. Concern was expressed that continuing development of drainage would introduce more water into Fishing Lake.
2. It was suggested that the exemption to the moratorium for the Fishing Lake drainage project would create a precedent that would support applications from others experiencing damage from high water on farmland and other property.
3. The consideration of damage to farmland from excess water should include the consequences of leached salts and reduced production area. There was no financial assistance available to compensate for this flood damage nor had there been any land tax relief.
4. Tax assessment should reflect changing land use.

5. The Committee saw some benefit to water quality from a constant summer flow in the Whitesand River.
6. Personal impacts resulting from flooding, erosion and damage caused by flooding should be considered just as serious for isolated individuals as they would be for residents of communities.

Yorkton Creek Local Watershed Committee

The Committee raised a question regarding timing of the first indications that flooding of property adjacent to Fishing Lake was imminent. They also questioned the relation of current water levels to the recorded high water level and the memories of "old timers" of the area. A question arose as to whether a minimum safe elevation for development had ever been established.

Lake of the Prairies Local Watershed Committee

This Committee meeting was cancelled because no members attended.

Lower Assiniboine Local Watershed Committee

The Committee was concerned that, in view of the special provisions included in the Moratorium on Drainage that allowed the Study to grant permission for drainage works to occur, and recognizing the fact that agricultural land was also being flooded because of the high water throughout the area, exemptions should be granted for agricultural lands as well for Fishing Lake. The Committee cautioned that the downstream impacts need to be addressed including the exemptions, for example, those on the Lake of the Prairies.

It was noted that many of the dwellings inundated on Fishing Lake were recreational cottages that were developed below the apparent outflow level. While assistance to mitigate the flood damages to these the homes and cottages was important, there should also be a program to mitigate the damage to agricultural land and the associated loss of income. It was stressed that the high rainfall in this area in 1996 had a very negative effect on the agriculture industry. It was suggested that water quality impacts be addressed in the proposal being prepared by the Fishing Lake group and it was noted that any exemption granted for the proposed project would set a precedent.

4.4 August 1997 - Fourth Committee Meeting
Topic: Fishing Lake Flood Control Project

At this series of meetings the Fishing Lake flooding was addressed and local concerns were voiced. Two members of the Fishing Lake Group attended every Committee meeting and presented the plans to ameliorate the flooding.

Upper Assiniboine Local Watershed Committee

The Committee members questioned whether their Committees had any impact on resolving the Fishing Lake flooding problem. The Committee also had a concern that Sask Water might go against the wishes of the people living in the Basin as a whole. It was noted that the area that the Upper Assiniboine group represented was not affected by the proposed Fishing Lake project. It was also noted that, even if the project did not proceed, a natural spill out of Fishing Lake would create problems.

Upper Whitesand Local Watershed Committee

The Committee pointed out that the Fishing Lake drainage proposal would have to take all the other watersheds, communities, and people that will be affected into consideration. The comment was made that the people located at Fishing Lake should have been aware of the high levels that occurred on Fishing Lake in the 1920s.

The people of the Fishing Lake First Nation were against the lowering of the Lake. They saw this as something that would not be to their benefit and were in favor of saving the water. It was felt that all users of the Lake must be aware of the potential for high water levels. The establishment a level above which users would be protected from flooding was the focus of the proposal submitted to Sask Water for approval. The Committee noted that more information was needed on inflows to the lake with a view to controlling these flows. It was also noted that additional channel improvements further down the Whitesand River could possibly decrease the impacts on pasture and farm land immediately below the proposed channel work.

Lower Whitesand Local Watershed Committee

The Committee pointed out that future construction and re-construction should be regulated so that flood damage from high water conditions did not occur. They were also concerned with the problem of water containing more that 1000 parts per million of salts coming through Canora. People, especially the elderly, would be affected and the treatment cost involved if, in fact, there were a means of treatment, would be very high, affecting the entire population.

Yorkton Local Watershed Committee

The Committee stated that the cottages at Fishing Lake should have been constructed above an elevation safe for building. It was noted that, in Saskatchewan, the rural municipalities have the responsibility to enforce building elevations provided by Sask Water. For the most part, cottage development was unregulated until the late 1970s and 1980s. Concerns were raised about the quality of the water going into the river system, particularly into the Whitesand River. Protection of water quality for the town of Canora was a question. It was noted that people in modern communities perceive that water should be clean and safe and, in many cases, were looking for super perfection in their drinking water. The possibility of some water quality mitigation by dilution in the Theodore reservoir was noted, but it was also noted that the Theodore reservoir was quite small.

Lake of the Prairies Local Watershed Committee

The Committee recognized that sulfates from the Fishing Lake runoff could contaminate the Canora and Kamsack water supply. They questioned whether the concentration of minerals and dissolved solids would build up during the predicted long periods between spills from the Lake. It was noted that flows from Fishing Lake would have less impact if they occurred for twelve months instead of just a few months and while the devastation of the Fishing Lake community required immediate alleviation, they were concerned that while many rural municipalities were informing builders of the safe elevation on lake and river bank locations, they did not enforce building regulations. It was noted that the operation of the control structure would be important and should include inputs from downstream below the Shellmouth Dam. The Committee stressed that the addition of water from Fishing Lake should work for everybody and adding water during drought periods should be considered.

Lower Assiniboine Local Watershed Committee

The Committee stated that, if the area draining into Fishing Lake had ditching that artificially adds extra water to the Lake, extra measures would have to be taken to control the inflow of this extra water. The Committee noted that development around Fishing Lake would also have to take historical information on past high water levels into consideration. They stated that the Lower Assiniboine area could not handle any more water, nor could it handle a longer high volume flow in the River. The comment was made that in Manitoba, the Brunkild dike was built in seven days, but that in Saskatchewan, the Fishing Lake problem had gone on for three years with associated damages and serious environmental impacts and there was still no solution. Operationally, it was suggested that the Fishing Lake Watershed Association should have liability insurance and that operation of the proposed control structure should include inputs from downstream below Shellmouth Dam. The addition of water from Fishing Lake would have to be managed to benefit the entire Basin. The addition of water during drought periods should be a consideration.

4.5 December 1997 - Fifth Committee Meeting
Topic: Discussion of the Drainage Issue with Representatives of Sask Water and Manitoba Conservation

This series of meetings were dinner meetings held in each of the Committees local area and they provided an opportunity to enjoy the local hospitality along with the business of the Study. A presentation was made on the legislative and regulatory aspects of land drainage in the two provinces.

Upper Assiniboine Local Watershed Committee

The Committee noted at this meeting that there was a need to understand the full basin impacts of drainage on water quality.

Upper Whitesand Local Watershed Committee

At this Committee meeting discussion focused on the excessive drainage work done around the country that would likely have made the problem at Fishing Lake worse, and that some municipal equipment may have been hired to do some of this work. It was noted that some municipalities would apparently hire out equipment that was not busy at municipal work.

Lower Whitesand Local Watershed Committee

The Committee noted that there was a need for more information regarding the effects of drainage on neighbors and downstream land. They also noted that the moratorium needed equal and more effective enforcement in both provinces. The Committee commented that they have had higher water flows prior to these past few years and they have always had a lot of drainage. The appearance that all water problems are caused by drainage may not be true.

Yorkton Local Watershed Committee

At this Committee meeting concern was expressed about the study dollars budgeted for the water quality component and it was suggested that water quality information is important and should be receiving more attention. It was also suggested that the results of the Fishing Lake drainage proposal be circulated on a wider basis. The committee inquired if this information was to be circulated in the newspapers. To augment water management and keep available water on farmland, irrigation from on farm ponds was suggested as a goal for diversified farming practice utilizing spice crops and other high-density crops.

Lake of the Prairies Local Watershed Committee

The Committee expressed their concern about the reduction of habitat by clearing and conversion to farmland. They suggested that there needed to be clear guidelines regarding the effective use of land either for farming or wildlife.

Regarding compliance to water drainage regulations, it was noted that some people complied because they wanted to and others because they had to. It was suggested that non-compliance penalties might have to be more severe.

Lower Assiniboine Local Watershed Committee

At this Committee meeting it was noted that the big argument about wetlands was that farmers were proposing that they should receive compensation for land that could not be farmed. Compensation set aside for land that is habitat or wetlands would be a good thing because there were a number of benefits to everyone. They suggested that the people who benefit, and that would be everyone, including hunters, should contribute. Farming margins were being squeezed more every year and there were no more economies to be realized. Accordingly, a farmer needed more income and that could only be obtained from farming more land. A balance between wetlands and farmland was required to ensure that all concerns were being addressed. Land assessment would need adjustment to accommodate such a balance, and those assessments

would need to be current and universal. The money spent on drainage compliance, would be better spent on water management. They noted that sometime down the road the water that was being drained might be needed.

4.6 March and April 1998 - Sixth Committee Meetings
Topic: Overview of Water Quality – Water Quality Committee

This series of meetings followed the Year One Workshop, which was an opportunity for all the Committee members to meet and discuss the Basin issues on a wider basis.

At the Workshop, it was noted that the beaver problem was Basin wide.

On the topic of water quality, all Committees expressed Basin-wide concern about the impacts of changes in land use, intense cattle operations along the riverbanks, pig barns, municipal landfills, sewage lagoons, and chemical runoff from farmland. They noted that the turbidity and colour of the water was also a developing concern.

Water supply was a general concern of all Basin Committees who agreed that only addressing the issue on a regional basis could result in problems downstream. They suggested that water flowing from the Basin needs to be considered in the context of the whole Basin.

Drainage and flooding discussions brought many concerns to the table. Some Workshop participants suggested that the costs of farming were increasing and reclaiming land was the only way to make a living, while other participants pointed out that the downstream flooding from drainage could not be ignored and those who had been affected should have been compensated. Drainage had caused the streams to run longer and higher. The discussion also suggested that Conservation Area Authorities and farmers had been unjustly criticized for drainage activity. It was pointed out that society has wealth because of agricultural productivity and this needs to be recognized. It was suggested that drainage regulations must be enforced and cooperation should be developed among all landowners for the entire Basin.

On the issue of the protection of wildlife habitat several Committee members commented that if 'society' judged that protection was needed, than everyone should pay for it, not just the farmers. Funds to compensate landowners for crop damage had not been administered universally and the farm community had not been included in the development or administration of the programs that were being used to convert farmland to wildlife habitat. The farming community should have been involved in the development of the North American Waterfowl Management Plan and they (the real 'stakeholders') should have had an opportunity to comment on the Plan. Most Committee members agreed that there needed to a working balance developed between wildlife and agriculture.

Under the heading of Water Management and Legislation, the Workshop participants commented that there was a lack of control and response to problems. The condition of Fishing Lake was suggested as an example of the absence of controls followed by the absence of solutions or

assistance. It was noted that no one was abiding by the Drainage Moratorium and there was no realistic enforcement.

Upper Assiniboine Local Watershed Committee

With regard to the problems that were happening to Fishing Lake, comparisons were made between the Conservation Area Authorities and the Watershed Associations. It was noted that a Watershed Association addressed the broad spectrum of water management, while Conservation Area Authorities tended to focus on one issue, which was usually either water conveyance or drainage.

Concern was identified regarding the impact on water quality from intensive livestock operations such as proposed hog barns. It was noted that there are still a lot of other livestock activities that impact water quality such as "creek side" cattle watering. Fencing to control access to water bodies by cattle was discussed and it was suggested that there might have been a program in the past to assist farmers who were interested in this kind of fencing and that such a program should be reconsidered. The Committee suggested that an "Open House" be held in early fall of 1997 to update the community on the Study.

Upper Whitesand Local Watershed Committee

The Committee advised that there would be very little runoff from Fishing Lake in 1998. Despite this, a request for an exemption to block the culvert to eliminate any backflow from Hazel Lake had been denied. This could further worsen the situation at Fishing Lake. The lake level on March 26, 1998 was 529.65 metres. Concern was expressed over the lack of support and assistance for the development of flood damage abatement.

The people from Fishing Lake had been working cooperatively with the government for over two years and had had seventy meetings to discuss the flooding problems. During the latest meeting held between the Fishing Lake people and Saskatchewan Environment and Resource Management (SERM) and SaskWater, it was understood that the plans to block the culvert to stop the backflow from Hazel Lake had been approved. As noted, this was not the case. It was noted that there would most likely be a high level of concern expressed by the people in the Fishing Lake area because every time they had tried to find a solution it had been blocked by some regulatory body. A comparison was made with the instant action taken in Manitoba when flooding occurred on the Red River, and it was pointed out that while the magnitude of the problem at Fishing Lake was smaller, the individual losses were just as great. It was also noted that there were extensive drainage works throughout the Red River Basin. The rejection of the culvert closure and the earlier plan that had proposed ditching had been based on the Moratorium on Drainage. In addition, there had been several concerns raised by downstream interests about the possible impacts of added flows from Fishing Lake. Continued unregulated drainage around Fishing Lake and drainage into Fishing Lake had added to the problem.

It was noted that, when initial flooding occurred, the two involved rural municipalities had declared the flooding an emergency and even with 130 homes and summer cottages under water and after a day of discussion with Saskatchewan Environment and Resource Management's lawyer the Department would not support the declaration.

It was also pointed out by the Watershed Committee that there were many many miles of unauthorized ditching put in place in the fall of 1997 and nobody stopped it but, when the Fishing Lake people had tried to follow proper procedures, they were blocked.

The Committee raised a local concern over old water wells. Old wells, improperly sealed, would allow any surface pollution to enter the aquifer, which would alter the water quality of the aquifer. A correct sealing procedure for abandoned wells that utilizes bentonite was described. It was noted that bentonite is absorbent aluminum silicate clay formed from volcanic ash, used in various adhesives, cements, and ceramic fillers. Dry bentonite would expand when damp or wet to form a tight earthen seal. Information about well sealing was available from the Sask Water office in Yorkton. During flood conditions surface water pollution could easily get into local aquifers through any improperly sealed wells. Measures to abate such pollution of aquifers were expensive and would necessarily include wells in use and abandoned wells. It was suggested that practically every quarter section in this country had an old abandoned well located on it.

Lower Whitesand Local Watershed Committee

The Committee commented that they couldn't see how the Fishing Lake water would make the local water any worse. The water in 1998 was the poorest ever seen. Even expensive filters did not seem to clean the water. The Committee expressed further concern about adding water volume to the system in those years that flooding occurs.

The Committee had heard of some changes to the collection program for farm chemical containers in their area. It had been suggested that the dealer would be collecting the containers, but nothing was clear at the time. The Committee commented that the use of pesticides was not common, about once every seven years. They went on to suggest that it was misinformation to point to the farming industry as culprits for introducing pesticides into the environment. In addition, the chemicals used when there was a pest or grasshopper outbreak had a very short toxic life and the residue was minimal. The agricultural community had always been sensitive to the environmental effects of these chemicals and it was wrong to continually incriminate them. The chemicals in common use on an annual basis were herbicides and fertilizers.

Yorkton Local Watershed Committee

The Committee requested that new technical information for Committee meeting be mailed out in advance, possibly attached to the agenda for the next meeting. This would accommodate the need for Committee members to make better use of their time and better cope with the increasing flow of technical information. (The Committee as a whole adopted this request.)

Concern about the lack of support for the development of flood damage abatement works and assistance was expressed by the Committee.

Regarding the Fishing Lake flooding, and the information about the possibility of the quality of the water being additionally impacted by the aquifer that is feeding the lake, the Committee inquired if a drainage ditch out of the lake would draw more water from the aquifer. The Committee was informed that it was unlikely because the lake would seek a hydraulic median as the aquifer went up and down with the lake.

With regard to the Yorkton Workshop, the Committee commented that the Study Management Committee should have been fully represented. It was noted that all the key players on that Committee should have been there, along with all of the alternative members. The Yorkton Watershed Committee further commented: "If the management group feels there was a need for support from the public they should have been in attendance." They commented further that: "When you have 50 people show up on a Saturday, one would think the professionals would show up." The Committee also pointed out that there had been a tendency to lose the Workshop focus and go in the direction of some individual concerns, which were of interest to only a few people. It was also suggested that too much time was spent on the same topics. The Committee felt that there was a need to change groups rather than spend the whole conference with the same people.

In discussing the need for additional public participation, the Committee noted that there had not been a lot of press coverage about the Study. The comment was made that it would be very difficult for the press to carry any news about the Study unless the Study was generating new information. It was pointed out that, to date, there had not been much in the way of new information and until the Committees started to discuss the issues, there would not be any widespread public interest. If the Study wanted the information spread everywhere, there had to be information that could be spread everywhere. The Committee suggested that the coming year's agenda, times of the meetings, and a statement of the objectives of the Committees would be helpful. Regarding the idea of another 'Open House', it was suggested that this would be a good idea, provided there would be some new information.

With regard to the water quality test site and the fact that there was only one site available for water quality testing, the Committee noted that there were five sites in the Yorkton supply system that underwent regular testing and that the results were on record. It was also noted that other municipalities carried out regular testing and placed their results on the record.

The Committee noted that the map showing farm chemical container disposal sites, municipal lagoons, and landfill sites had missed several sites and the information was incomplete. The Water Quality Committee made an undertaking to check the information and make any necessary amendments as well as showing the discontinued sites.

It was noted that container disposal was undergoing change with the introduction of new high-tech spray equipment and changing chemical company activities.

Lake of The Prairies Local Watershed Committee

The Committee expressed concern about the lack of support for the development of flood damage abatement works and assistance.

The Committee inquired as to the completeness of information shown on chemical container sites, and asked if the rumored 'environmental fee' was going to be added to the cost of chemicals. It was noted that there appeared to be some differences between Manitoba and Saskatchewan in the way chemical containers were being handled.

Lower Assiniboine Local Watershed Committee

The Committee expressed concern about the lack of government support at Fishing Lake.

The Committee was advised that the Smith Creek Watershed Association had been formed. Smith Creek was described as a tributary to the Assiniboine River flowing through the rural municipalities of Churchbridge and Langenburg. There had been a lot of channel clearing along the creek during the summer of 1997. The rural municipalities of Churchbridge and Langenburg and the Conservation Area Authority of Langenburg East had submitted an application to establish a Watershed Association called the Smith Creek Regional Watershed Association. There had been three other Watershed Associations established in this Basin. They were identified as the Yorkton Creek Watershed Association, the Good Spirit Lake Watershed Association and the Fishing Lake Watershed Association.

Channel clearing was noted as being among the activities undertaken by Conservation Area Authorities and Watershed Associations. It had been a permitted activity during the Moratorium. Channel clearing consisted of the removal of blow dirt, silt, trees, beaver dams, and obstructions, but the course of the stream, its depth, and its width could not be altered. The removal of parent material was not allowed and the overall guideline was that the creek could only be restored to a natural state. SaskWater was continuing to provide financial assistance to do this kind of work.

The Committee was advised that Watershed Associations were comprised of urban or rural municipalities and other constituted organizations such as Conservation Area Authorities. Generally, they were organizations that had taxation powers. They would undertake projects for the common interest of their membership, to store, conserve, use, control, protect, or develop water resources and to conserve, control, protect, or develop land, forest, and recreation resources. Watershed Associations were groups of local governments that banded together to manage water for a particular purpose.

It would be the intention of the Smith Creek Watershed Association to facilitate the implementation of various water management initiatives in their area. They would be looking at things such as channel clearing, conveyance works, flow controls, wetland preservation, land control, soil conservation and education. Watershed Associations could make partnerships with government and non-government agencies for technical support and advice. They could typically have an advisory body made up of government and non-government agencies. The Associations would however, still be subject to all regulations and approvals. In particular, the proposed Association would remain subject to the terms and conditions of the Moratorium on Drainage. The Watershed Association expected to send their application to the Minister Responsible for Sask Water in April 1998.

Comparisons between the Conservation Area Authorities and the Watershed Associations were discussed. It was noted that a Watershed Association addressed the broad spectrum of water management while Conservation Area Associations tended to focus on one issue, usually water conveyance or drainage.

Referring to damages occurring because of flooding, the Committee pointed out that there are differences in the way compensation and assistance were applied and administered between

Manitoba and Saskatchewan. The Committee went on to recommend that this problem required attention and a better solution developed. Local Watershed Associations in Saskatchewan and Conservation District Associations in Manitoba provided an opportunity to address this concern. The Committee commented on the need for the development of long range plans to properly manage the water in the Basin, and the need for the planning to include Manitoba and Saskatchewan on equal terms.

The committee commented that the Moratorium on Drainage, which was put in place so that the impacts of drainage could be determined by the Study, had not been competently enforced or publicized nor had it been mentioned in previous meeting 'Digests'. This had been discussed several times by this Committee and it was intended that the Moratorium should be recognized as a problem in the Basin that was affecting the Study and many agricultural activities. It was requested that the concern about illegal drainage activities be brought to the attention of the Ministers responsible for SaskWater and Manitoba Conservation and it was requested that a copy of the Meeting 'Digest' from the Lower Assiniboine Local Watershed Committee, held on April 7th, 1998 be forwarded to them. It was noted that the rural municipalities of Churchbridge and Langenburg had written to the Ministers and several other government departments advising them that the Moratorium had not worked anywhere in the Basin.

4.7 June 1998 - Seventh Committee Meeting
Topic: Overview of Wetlands Committee Work

General Information Relevant to All Committees

Following completion of these Committee meetings, it was decided not to hold a round of fall community open house meetings. It was also decided to defer the organization of a tour in the Basin at this time.

Upper Assiniboine Local Watershed Committee

The Committee was informed that an estimated 408,000 cubic meters of silt had accumulated in the Kamsack water reservoir since 1993. Water was pumped into the reservoir from the river and it was discovered that approximately 1.2 metres of silt had developed right at the intake pipe. The intake pipe was located at that operating level in 1993. Divers gathered this information, and more information about the silt levels would be forthcoming when they undertook a more accurate survey. In 1993 the criterion was not to pump water when the turbidity was over 1 part per million (ppm). The criterion was 5 ppm in 1998 because the turbidity in the river at the intake had apparently increased over that period. Historic records, kept by the town, indicated that the silt problem that had occurred had not occurred in previous years during both high and low flows. It was suggested that land clearing and drainage activities caused the excess of amount of silt in the water. It was further noted that ditching and land clearing would cause a very fast spring runoff likely causing even more erosion.

A round of Community open-house meetings throughout the Basin similar to the initial round of meetings at the commencement of the study was being considered. What had been proposed was

a 20 or 30 minute general session and then people could visit specific tables around the room and discuss issues and the Study with the Study staff. The timing for this round of community meetings was to be in mid November of 1998. Another suggestion had been to organize a tour to look at specific projects and concerns in the Basin. Suggested timing for this activity was late July or early August of 1998. It was felt that this might be a useful activity and that timing would not cause any more work conflict than one might normally experience at that time of year. Interest was expressed in showing other Basin residents how all the farming techniques were changing in this area, from grain through to cattle.

The Committee noted that the Upper Assiniboine River Basin had a wide variety of birds and animals. They noted that there was a huge osprey nest on a grain elevator, approximately 16 km north of Preeceville. Because of the rarity of the osprey in this area, the nest on the top of the elevator had created a dilemma for the grain company who had indicated that they plan to remove the elevator.

Upper Whitesand Local Watershed Committee

The Committee referred to the discussion on water quality at the sixth meeting when concern was expressed over the removal and destruction of chemical containers. It was noted by the Committee that recently a document had been circulating indicating companies and locations where empty chemical containers could be delivered. This document had indicated that the containers should be triple rinsed and be dry before they were delivered to the removal site. This new program appeared to be experimental.

The Committee noted that the flooding and devastation to summer homes and cottages on Fishing Lake had been viewed by many government officials. It was pointed out by one Committee member that no solution had come forward. There did not appear to be any solution offered for the problem. Any person visiting could have readily and quickly seen the effects on the shoreline and throughout the settled areas. It was also reported that the Fishing Lake Watershed group was not interested in spending any more money until they had seen some action on the problem. The Committee noted that a lot of drainage was done late in 1997 near Fishing Lake. The effect this had on the levels of Fishing Lake and exactly how much drainage was really done would be useful information. It was further noted that the moratorium was ineffective and the Committee inquired about the possibility of increased drainage when the moratorium is removed. It was also noted that Ducks Unlimited would be most likely to have complete information on the drainage, wetlands, and the resultant effects on the area farmland. It was suggested that some form of local control be employed to manage the pumping and drainage that was carried out during wet years and in the spring.

The Committee suggested that there should be a plan in place for the future in which conservation of water would be a priority. A better understanding of water management requirements between the provincial managers and the people who live in the area would be essential.

Concern was expressed by the Committee regarding the random development of habitat for geese and ducks. Payment for adjacent crop damage was not considered adequate. It was also reported

that excessive land payments had been offered for grain producing land that would be turned into breeding habitat for waterfowl.

Lower Whitesand Local Watershed Committee

The Committee inquired as to whether the study of wetlands would clearly indicate the location of all the wetlands throughout the Basin area. The Committee was informed that information from Ducks Unlimited, who had seven different categories for wetlands, would be used by the Study. Different information collection systems would be used to provide other land and cropping types. Two specialized data sets were being put together. They would map the information down to 0.04 hectares in size or smaller. Any wetlands as small as 30 metres by 30 metres would show up on the map.

The Committee inquired if the bag limits for ducks in the United States were altered throughout the low population years or did they remain the same. They further inquired if they were being adjusted annually in relationship to population changes. It was suggested that Ducks Unlimited would be in the best position to provide an answer to these questions and an answer was requested for the next meeting. It was noted that the Canadian waterfowl bag limits were adjusted according to the population. The Committee commented that, when the geese move in, the ducks move out and during the years to date, the population of white geese had increased many-fold. It was also noted that the goose population had increased so dramatically that the flyways had widened and changed to accommodate their migration.

The Committee commented that land, which becomes flooded during wet years, could create wetlands that take two to three years to become productive for agriculture again after they dry up. They would also be subject to excessive salinity. It was noted that production land that becomes flooded should be drained as quickly as possible to avoid the salt that can leach to the surface. It was suggested that the wetlands study should include information about the amount of damage, in both soil quality and the area that would flood during wet years. With the number of people in agriculture basing their livelihood on farmland production, it was suggested that this would be important land use information. In the Canora area, during the mid 1950s, production was reduced by 50 percent and costs increased by 100 percent because of excessive flooding. This problem was ongoing. As an example, one farmer's experience on two pieces of land, one with drainage improvement and one without were reported. The land without improvement required much more time and resources to achieve the optimum level of production. On the improved land, there was less overlap and less 'going around pot-holes.' One member reported that a production study had been done in Alberta. The information from this study could be extrapolated for this area to provide some basic information on the problem. It was suggested that two or three example studies could be conducted to establish some base information that could be applied on a general basis. The Committee reinforced their concern that their 'practical' user information should be included in the conclusions of any study.

The Committee questioned the definition of wetlands, pointing out that areas created by flooding and 'sheet water' from a runoff should not be considered wetlands. The Committee suggested that the wetland definition should be carefully understood by the Technical Committee studying this question.

The impact on production from migratory birds encouraged into an area by the availability of wetlands and food was identified as a problem. Considerable concern was expressed about the lack of adequate compensation for crop damage that occurred because of this situation. The Committee went on to insist that the total relationship between food production and wildlife would need some practical operational guidelines from this Study. They noted that in the past there had not been much evidence of local concerns and conditions being included in the development of operational guidelines by the government.

Yorkton Local Watershed Committee

This Committee pointed out that it could be premature to hold an open house before the Technical Committees had completed their study and prepared their reports. It was suggested that these reports be made available to this Committee before being presented to the public and that study findings be made available to the public before the Committee was required to make recommendations. This would ensure an opportunity for the Committee to consider any reaction from the public regarding possible conclusions and future planning for the Basin. An open forum of some sort would be a good way to collect public reaction if it were held at the appropriate time. The Committee expected that the public would be most interested in water quality and quantity for domestic and industrial use and would need an opportunity to react before the study conclusions were reached. It was noted, however, that some kind of interim public forum could be useful.

The Committee indicated that it was their impression that the public did not know of the existence of the Committee. Outside the Study meetings there did not appear to be much information made available to the public. In order to have a successful open house or public forum of any kind there would have to be more public awareness of the Study. The Committee stressed the point that information going to the public should be presented to the Committees first.

It was suggested in that the idea of an inter-Committee tour be deferred until the Study conclusions were reached. The benefits of managed drainage as well as the effects of drainage, both managed and unmanaged, should be part of the tour agenda as it was deemed essential that the whole story be presented. The Committee further suggested that the complete agenda for the tour should be created and circulated.

Lake of the Prairies Local Watershed Committee

The Lake of the Prairies Committee pointed out that a Community Open House "sometime during fall," would conflict with the rural municipal elections that occur in the fall. The Committee suggested that it would most likely be better to hold an open house after the elections to ensure the representation on the Study group would meet with the approval of the new councilors. The Committee generally felt it would be a good idea to come back to the community with some study information at the earliest possible time. It was suggested that personal invitations should be sent to elected community representatives to ensure their attendance.

The idea of touring different parts of the Basin or hosting other Basin Committee members and touring in the area was discussed by the Committee but because of the erratic growing season not all members would be available. It was felt that this activity would be better held towards the end of the Study.

Committee members noted that there was an apparent increase in the snow goose population in the Lake of the Prairies area. It was explained that snow goose population increases were related to a number of factors. Indications that local hunting pressure was dropping because there were less people living in rural communities and that the family social structures were changing resulting in less people involved in hunting. Changing flight patterns during migration had been resulting in more birds in some areas. It had also been suggested that due to land use trends leading to wetland reduction in their winter staging area, flocks had been forced into denser food production areas thereby creating stronger, healthier birds which then would reach their nesting areas in conditions that would allow them to be somewhat more prolific.

Lower Assiniboine Local Watershed Committee

The Committee re-emphasized their point from the last meeting that the Moratorium on Drainage had not been enforced adequately and that it was noted by the Study Technical Committees and the Study Directors. It was felt by the Committee that ongoing drainage activity was creating a moving target making Study conclusions difficult due to the inaccuracy of impacts of land drainage. The Committee again emphasized the negative impacts created by illegal drainage and suggested again that more resources should be dedicated to stopping illegal drainage. They suggested that more public information and education would be required and that greater penalties should be put in place for people who were ignoring the moratorium. It was noted that the drainage problem was universal in both Manitoba and Saskatchewan, and was not unique to the Upper Assiniboine River Basin. Some members of the Committee had met with the Minister responsible for Sask Water and had informed him about the problems with the moratorium. The Committee reiterated their request to have the Ministers of both provinces informed about the Committee's concern.

With reference to the spring runoff it was reported that the Lake of the Prairies summer target level was achieved and the reservoir contained an adequate supply of water for all needs. The heavy rains that occurred in 1997-98 had resolved many problems including the mitigation of concerns by downstream irrigators over the available supply of water. The Committee further noted that development in industry and agriculture in Manitoba would increase the need for future water, but taking into account water from tributaries such as the Souris, Qu' Appelle, and others, demands into the foreseeable future could be met with supplemental releases from Shellmouth Dam. For example, just before the above-mentioned rain there was 28 cubic metres per second flowing at Headingley, Manitoba and only 2.8 cubic metres per second was being released at the Shellmouth Dam. Short-term supply can be met by increased releases from Shellmouth Dam. However, in future years, once the Assiniboine River in Manitoba is fully allocated, it may be that people who develop irrigation projects will have to take risks as there may only be enough water available to provide irrigation eight years out of ten. Water in this system was dependent, as it is everywhere, on weather and weather trends. The Committee noted that the Wetlands Technical Committee did not have significant professional representation from the agricultural sciences. The concern was expressed that agricultural needs and

agricultural land-use considerations were being pushed aside to accommodate environmental ideals. Agricultural concerns require strong representation at every table where decisions on future land use were being considered. The Committee was assured that agricultural sciences were represented on the Technical Committees and that agricultural information should form a major component in future planning for Basin land use. The Committee would be given the opportunity to examine and react to the findings of the Wetlands Technical Committee as well as the other Technical Committees working on the study.

Information on wetlands remained a major question, which this Committee was working on in order to fully delineate the impacts of waterfowl on land use. The Committee expressed interest in the relationship between wetlands and the shift in the flyways of the migratory birds. The increased population of the snow geese and the changing flyways were creating new crop damage throughout an ever increasing were widening area. It was noted by one Committee member that the wetlands issue was of primary importance to the sustainability of our communities, our farms, and our future; "we want something left for our children." was the comment.

A member of the Committee suggested that another discussion on water quality would be useful and another member of the Committee suggested a discussion of the economics of farming presented by two agricultural economists, one on the topic of farming costs and efficiency on land that had been drained and the other on the same topic on land that had not been drained.

4.8 October 1998 - Eighth Committee Meeting
Topic: Overview of Water Supply and Use Committee Work

Upper Assiniboine Local Watershed Committee

The Committee raised the question of who will be monitoring the water quality at the hog barn facilities that have been developed in this area. The Committee was informed that Saskatchewan Agriculture and Food was the regulator and will be responsible for the follow-up monitoring.

Concern was expressed by the Committee that the Fishing Lake problems have not been solved. It was pointed out that the damage to the shoreline environment and to property was occurring.

Referring to the information distributed on the Conservation District Program in Manitoba, interest was expressed on the comparison with the Saskatchewan Conservation and Development Districts Program (C and D). The view was expressed that the Saskatchewan C and Ds were drainage authorities while the Manitoba Conservation Districts look at the wider issues. Information was requested for the Committee with comparisons on the different Conservation District programs, as well as the watershed programs, including funding sources and decision authorities

Regarding the source of water in the aquifers, the Committee was advised that it was being looked at but it was 'for certain' that the water in the aquifers originated from the surface. It

could be thousands of years old and it could have worked its way from somewhere far away way underneath us with an unknown affect on the quality and quantity.

A Committee member commented that the shallow community well in Hinchliffe had changed levels over the years. It was noted that shallow wells in porous soil conditions respond very quickly to surface water conditions. It was also noted that frozen surface soils would not usually let any water into the sub soil.

The Committee was advised that water use for the intensive hog operations had to be licensed. Wells have to be monitored. Despite this information, Committee members expressed concern about the impact of these operations on the local water supplies. It was suggested that the availability of water in the downstream from the hog operations would suffer from reduced water supply as well as quality. There were existing water shortages near the planned hog barns. Regarding this problem, the Committee members were urged to call the Moose Jaw Sask Water office and speak to Mr. Cas Rogal. It was also reported by a Committee member that there had been some ditching undertaken during the construction of the barns. A Committee member reported that they had talked with Sask Water about the situation in the fall of 1997, because they wanted to clean out a drainage ditch and they were denied permission. The Committee member was informed by Sask Water that permission had been given to the hog barn because it was in construction and they were entitled to ditch for the construction of the hog barn. It was pointed that under the Moratorium on Drainage, that ditch maintenance can be carried out so there should not have been any problem. It was further pointed out that the study was looking at current conditions to develop future plans that will work, not to solve the immediate problems. While day-to-day problems are a concern, they should be worked out with the Yorkton Sask Water office

Upper Whitesand Local Watershed Committee

A Committee member inquired as to the daily water consumption of a pig and was informed that a farrowing sow would require 82 litres of water a day. This would include the requirements for a sow and offspring, cleaning and all uses. The sow would drink 36 litres of water. A cow with a calf requires 55 litres a day for drinking and a dairy cow would consume 136 litres a day and a horse requires 50 litres a day.

It was reported that the elevation of Fishing Lake, as of September 24 was 529.445 metres. At the time of the meeting the gauge been removed for the winter. The spill elevation was 529.742 metres, which would be above the current lake level. The elevation one year ago in September was 529.68 metres.

One member reported on the excessive amount of rain they have had in this vicinity over the previous few years, which had led to additional drainage. The impact on Fishing Lake was unknown. A Committee member from this area had kept rain records for the past eleven years for the Agriculture and Food department. This information was available and was actually being used by the study to help determine the amount of water in the area.

It was the general feeling that the economic impact of the flooding at Fishing Lake was quite serious and a solution was needed. It was felt that out flow improvement would be the only answer.

It was also noted that zoning requirements for future developments were being more stringently encouraged.

Lower Whitesand Local Watershed Committee

The Committee discussed the restaurant place mats briefly and noted that they had not been noticed that much. It was noted however that these observations had been mostly at coffee time. Some members of the Committee said they would check more closely.

One Committee member commented that the 1998 summer rainfall in the area clearly identified where all the natural water flows were. Many creeks that had been forgotten about had shown up. In some cases, farmers lost as much as one third of their crops. Another Committee member inquired if the Water Supply Study was 'linked up' with the Integrated Water Management Strategy for Saskatchewan (Water Management: Issues and Challenges) and what was happening with the Water Management group initiative that was undertaken in 1997. The Committee was informed that the Water Management Group report was expected in the fall of 1998 and the Committee would receive the results as soon as they were available.

Yorkton Creek Local Watershed Committee

The Committee referred to the Study schedule and inquired if the Study was on time. They were informed that the Study was about six months behind; but it was expected that the work would be intensified during the last phase and it would be finished on time. The Committee further inquired about the financial status of the Study and was informed that Study funds were fully allocated which meant that they have been assigned to the activities and were assumed to be spent. The result was that there would not be any funds left over. Concern was expressed about the 'last minute' expectations of this Committee to deliver local conclusions by the deadlines if the Study results were late and there were insufficient funds to accommodate the Committee meetings.

The Committee inquired about the cost of the Stock Watering Demonstration and was informed that the Study had contributed about $2,000.00 in partnership with Ducks Unlimited, Sask Power, SERM, and Saskatchewan Agriculture and Food who donated funds or time. Further inquiry was directed at the cost of the restaurant place mats. It was reported that the 50,000 place mats were produced at a cost of $0.04 each which was $2,000.00. It was noted that none were distributed in Yorkton.

A request was received from a Committee member for the meeting schedule of the Management and Technical Committee meetings, giving the time, date and location of all meetings planned. Attendance of Local Watershed Committee members at the Management and Technical Committee meetings was discussed and it was established that Local Watershed Committee members could attend to provide information or deliver a concern at a specific meeting on a prearranged basis. The Committee was informed that notes from the Management and Technical

Committee meetings would be available upon request by the Local Watershed Committee members.

The Committee discussed the return flow from municipal discharge and it was noted that some caution was exercised to ensure that water quantity was not counted twice. It was also noted that the only accurately measured additional flows would be those from storm drain systems.

Lake of the Prairies Local Watershed Committee

The Committee was informed that the Town of Roblin had started construction on an 'engineered wetland' to augment the town's sewage treatment. The wetland would be operated in conjunction with the effluent irrigation system. This wetland would receive effluent from the cell lagoon system and it would cover several hectares.

A Committee member inquired how many Conservation Districts were in place in Manitoba and was informed that there were nine districts that covered approximately 40 percent of Manitoba with about 80 municipalities in the program. Regarding the involvement of these Conservation Districts in drainage management, one member inquired if there had been pressure on the Districts to include drainage management in their mandate. The Committee was informed that while some had not included it their policy, it had become clear that this activity needs to be included for the District to completely fulfill the concept of local management. To achieve this, more funding from the province would be necessary and Manitoba had recognized that the province cannot achieve it alone and they need the help of the local districts and that this would occur eventually. It was noted that the creation of a Conservation District in this area had currently been turned down by the rural municipalities.

The Committee commented that, prior to the construction of the Shellmouth Dam, the proposed management plans for the Lake of the Prairies included the construction of irrigation for the area around the lake. While the Water Supply Technical Committee representative was not familiar with the plan under discussion, it was indicated that the water supply model would be able to tell if there would be water available for irrigation.

Lower Assiniboine Local Watershed Committee

It was noted by one member of the Committee that inflow to Lake of the Prairies was quite variable in the summer of 1998. It was also noted that, based on available information, the peak flow on the Assiniboine River at Kamsack on July 12, 1998, after the late June and early July rainstorms was in the order of 56.6 cubic metres per second. This was followed by extremely dry conditions in which the flow at Kamsack had dropped in August to only 0.99 cubic metres per second. Similarly, on the Shell River, the July 8 peak flow was 19.4 cubic metres per second and then dropped to 0.74 cubic metres per second. These extreme flow variations indicated the problems that had to be dealt with when managing the reservoir.

Regarding ground water, a member of the Committee inquired if all ground water information was to be included. The Committee was informed that existing information on the larger aquifers would be included but they would not be including information on the smaller aquifers. Volumes of flows from shallow aquifers and springs would show up in the stream volumes and

would be taken into consideration as part of the total amount of water in the system. It was indicated to the Committee that the water supply study results would be discussed at a future meeting at which time the help of the Committee would be requested to ensure that all major water sources and uses were included. One member noted that it would be essential to clearly identify the time period relative to the supply and use because of the different wet and dry periods the area experiences. Concern was expressed that drainage would affect local aquifer recharge. It was noted that the shallow aquifers could be affected. The larger Hatfield aquifer, located 60 to 90 metres below the surface, obtained its recharged hundreds of miles away in the southwest corner of the Province of Saskatchewan.

A member inquired if the data being gathered would take into account proposed future development such as irrigation in the Brandon area or other downstream locations. Would the study be able to indicate that there would be adequate water available for the existing on-stream developments as well as for planned developments for the near future in nine years out of ten? If development increased by 20 percent or 30 percent, would additional storage be required? The Committee was informed that the water supply model will be able to answer these questions for the Basin but will not include areas below the Basin. The model would however be able to tell how much water would be available from this basin.

The Committee requested that the water quality information provided be correlated to flow information and that a detailed chemical analyses be included.

Committee members commented that the Manitoba Government had totally ignored the Moratorium on Drainage and had constructed a major drainage ditch along Highway 16 west of Russell. This ditch drained a wetland and tied into a municipal ditch. It was pointed out that this action made a mockery of the Study and the associated Moratorium. The Study Directors indicated that they had not been informed about this project and that they would inquire as to how it occurred and report back to the Committee.

The Committee requested confirmation that their comments on the Moratorium had been forwarded to the Ministers responsible for the Study. The Chairman responded that the comments had been forwarded, and it was his understanding that, as the Committee had requested, the text of the comments, as reported in the digests, had been included in the letter to the Ministers. The actual correspondence had been between the Study Management Committee Co chairs for Saskatchewan and Manitoba and the Ministers responsible for their respective departments.

Concern was expressed over future impacts of drainage maintenance works. It was requested that these impacts be included in the water supply information so the Committee could see the how future flows would change.

An inquiry about the duration of the drainage Moratorium on Drainage was directed to the Study Directors. The following questions from the Committee and responses from the Study Directors took place:

Q- What studies that were currently going on, were impeded by illegal drainage that had been described as a 'moving target'?

A- The Drainage and Flood Control Committee were looking at the land use changes, which included land clearing, and drainage between the mid 1950s and 1995/1996 photo imagery. The Study can look at the change over this period, but what had happened in the last fall or two is unknown, as there was no data. All the study can do is determine what the relative change had happened during this forty-year period. We know there was drainage going on but we don't know the extent of the impact. A new data set for 1999 would have to be developed to see how much change had occurred.

Q- Can you explain what measurements were messed up by the drainage since 1995/96? Were you concerned that your base line was distorted?
A- We know how much drainage or how much loss of wetland area occurred in the Basin in the forty years up to 1996. We don't know what had been lost since 1996.

Q- How does that impact the Study?
A- The Drainage Flood Control Committee was looking at the impacts that drainage had on peak flows and volumes. We will know what the impacts were up to 1996 but we won't be able to tell you what had happened in the last two years.

Q- Where does this end on this Study? When were you going to have enough information?
A- What we were trying to do was establish whether drainage had an impact or had no impact and the order of magnitude. Then we will have the tools to say if drainage continues to occur it will have this effect or that effect.

Q- So was it correct that what you were basically doing was projecting the numbers you have worked with from your start year to your benchmark 1995/96 year?
A- Yes, then we will be able to say that this was the impact. We will have a tool to assess future changes in the basin.

Q- So you can look at this data and project the changes in the future?
A- Yes.

Q- How long then will the Study continue to go back and retrieve data that the illegal drainage during the Moratorium on Drainage has made ineffective because the information changes?
A-All we can say is that this was the kind of impact on runoff until 1996, but we were uncertain as to what it has been since 1996.

Q- When was the Moratorium on Drainage going to be lifted? When was the illegal drainage no longer going to impact our study?
A- When the Study is over the Moratorium on Drainage will be lifted.

Q- Were you saying that the Moratorium on Drainage really had nothing to do with the study as far as the technical data is concerned?
A- That is correct. The technical information was very important to provide the information we need to formulate the framework for future water management in the basin. For example, do we want controlled drainage, or do we want any drainage. At this point, we do not have that answer and the Moratorium on Drainage was intended to maintain the status quo until we developed our basin plan.

Chairman's note: *The content of the foregoing Q and A session was reported here at the direct request of the Committee members and had only been partially edited for clarity. To the best of my knowledge, the subject content was not altered.*

Further comments suggested that it was felt important to let people know that the Moratorium on Drainage was causing many problems. If the Moratorium on Drainage were lifted, farmers would not be as apt to go out and do illegal drainage. The non-farming public had missed the fact that a year was a very large portion of a farmer's career. To tie a farmer up for three years in 1997 when they had the best year for land management in a decade was immoral. There is no other occupation that would have allowed that to happen but farmers were forced into that situation. If the Study was looking for controls and looking for planned drainage then legal drainage plans and projects should have been allowed. If a farmer knew that there would be action and progress then he would be prepared to have it done legally. That has been substantiated by the Manitoba drainage review.

The Committee noted that while the Moratorium on Drainage had fallen short of succeeding in stopping drainage and other land use activities, a program like the Manitoba Conservation District program would likely have offered better management and local control. It was suggested that the Manitoba type of program would go a long way toward solving problems before they occur.

The Committee was reminded that the Study was undertaken because there was a water management problem that appeared to be worsened by unplanned drainage.

The Committee again requested that the ditching along Highway 16 be looked into and a definite protest forwarded to the government department responsible with a request for complete disclosure of the process that authorized the works.

4.9 November and December 1998 - Ninth Committee Meeting Topic: Overview of Drainage and Flood Control Committee Work

The subject matter for the next meeting series of the Local Watershed Committees was outlined. The Committees were informed that these meetings would assist in the conceptual development of locally focused activities that would help obtain solutions to the local water management issues the Study needed to examine.

All Committees were informed about the proposed meeting schedule for 1999 including the plan to combine several of the committees together for these meetings. The Committees were also told that combining the Committees would more easily accommodate the availability of the technical staff by reducing the number of presentations. With regard to the schedule of future meetings, the Committees agreed that combining with other committees would not be a problem providing the weather was suitable for travel. The Committees also agreed that an August meeting should be held early in the month to facilitate greatest attendance.

All Committees were informed about Shellmouth Dam 1998/99 planned winter operation Information was provided on the dam's purpose, general operating guidelines, 1999 spring runoff forecast, and planned 1998/99 winter operation. Following this briefing the Committee inquired about the operation and history of the facility. The committee was informed that the dam was constructed by PFRA in the 1960s in cooperation with the Province of Manitoba. After a couple of years of operation, ownership was turned over to Manitoba.

After the 1950 Red River flood, a Royal Commission on Flood Cost-Benefit was established to make inquiry, findings and recommendations regarding protection of flood prone areas. One of the recommendations resulted in the construction of the Red River Floodway, the Portage Diversion and the Shellmouth Dam.

The Shellmouth Dam was built for both downstream flood protection and water supply. Over time, considerable recreational development had occurred on and around the reservoir, which has been taken into account in the management of the dam's operation. The original plan was only to draw down the reservoir in the spring to an elevation of 42.4 metres. Water below this level was to be conserved for water supply. The reservoir provides municipal water supply for the cities of Brandon and Portage, stock watering, thermal cooling for hydroelectric generation at Brandon, irrigation, sewage effluent dilution and enhancement of recreation and fisheries both on the reservoir and along the river between the reservoir and Winnipeg.

The operation of the Shellmouth Dam was managed by the Manitoba Water Resources Branch. Reservoir water levels were electronically recorded and accessed by phone along with data from the Shell River near Inglis and the Assiniboine River at Kamsack. These data were used for forecasting inflow to the reservoir and for monitoring reservoir conditions at all times. Based on this information, the dam is operated to maintain the required reservoir levels.

The dam's operation was assisted by a Shellmouth Reservoir Liaison Committee, which provides a formalized communication between Manitoba Water Resources and local residents along the Assiniboine River. Committee membership includes the major stakeholders along the river. The committee facilitates local input and provides a forum for exchange of relevant information regarding management of water flow along the Assiniboine River.

Upper Assiniboine Local Watershed Committee

The Committee inquired if the 'SLURP' model was capable of dealing with varied weather patterns, and was informed that the model uses temperature, dew point, solar radiation and precipitation data so it can evaluate snow in terms of liquid water and calculate the amount of runoff. The model worked on a daily basis and therefore could deal with changing weather patterns. Wind data was also included so snow drifting could also be taken into account. The model was looking at a forty-year window because of the availability of complete historical information; however, this forty-year window was adequate for the purposes of the Study.

The committee inquired about changes in the land since 1950 and was informed that the most significant difference would be in the land cover. Land clearing, logging and cropping had created the most change. This would be measured and included in the model.

The 'SLURP' model was being managed by the Drainage and Flood Control Technical Committee made up of representatives from Environment Canada, PFRA, Ducks Unlimited, SaskWater, Manitoba Water Resources, Manitoba Rural Development and SERM. This multiple agency group worked to ensure a consensus on the nature of the input and operation of the SLURP computer model.

Upper Whitesand Local Watershed Committee

The Committee informed the Study Directors that rain in the area late in the fall 1998 had frozen on top of the ground and created a 'seal' that would cause the snow melts in the spring to run off more than in some years. The Committee was informed that this information would be useful to augment the historical record that includes fall soil conditions and precipitation data collected throughout the winter. These data were refined with the airborne snow 'gamma' survey and would provide information about the amount of water in the snow cover. With all this information, a 'best estimate' of the spring runoff potential would be created.

Following the Drainage and Flood Control Committee Presentation on Hydrologic Modeling a Committee member commented that it would be interesting to see the results of a comparison between the runoff in 1950 and 1999 considering the drainage that had occurred in recent years. It was pointed out that the land cover had changed as more land has been brought into production. It was noted that the 1950s was about the peak of the tree growth in the area.

Lower Whitesand Local Watershed Committee

The Committee inquired if a new set of information could be provided by the SLURP Computer model any time after it was up and running. The Committee was informed that changes could be made in the model to examine the different results. The Committee further inquired that if Canora was putting about 1590 liters more per day into the system out of the aquifer well they had developed, would the model be able to include this. It was noted by the Committee that they had been told several times when discussing drainage that 'every little bit counts'. They were informed that the model was capable of responding to changes in all data including temperature, snowfall, wind and other conditions that affect the amount of water in the basin. The model would include the historical weather data up to and including the 1995 weather. With this information, the model should be capable of simulating the 1995 flood flows. The model was programmed to give an objective analysis including changes that include new quantities, as in the case of water added from developed aquifers or other water supplies like the water piped in from the Melfort aquifer.

Yorkton Creek Local Watershed Committee

The Committee suggested that because Lake of the Prairies was a recreation area for the people in the Yorkton area, it would be helpful to keep the Yorkton public informed about the operation of the reservoir. News releases regarding changes in dam operations should be provided to CJGX in Yorkton.

Following the Drainage and Flood Control Committee presentation on Hydrologic Modeling the Committee inquired about the future availability of the model after the Study. Would the model

be available for use by the cities, towns, schools and the public as a tool to both understand the basin hydrology and forecast future conditions? The committee was informed that the model had been set up for the purpose of the Study. To be used for forecasting, the model would require constant updating with water and weather data, as well as periodic checking for changes in land use. It would be impractical to run the model for forecasting without ongoing modifications. The committee further inquired if the model was, or would become, the property of SaskWater after it was developed for this Study and was informed that that was the intention. It was estimated that the model may be able to generate preliminary usable data by the end of January, 1999.

Lake of the Prairies Local Watershed Committee

It was noted by the Committee that the Roblin engineered wetlands would be completed and operational for 1999.

Regarding the ditch construction along Highway 16 in Manitoba, close to the Saskatchewan border, the Study Directors had received information that the Manitoba Highways Department had received an exemption under the Moratorium on Drainage to drain a wetland that had an area of about 2.2 hectares. The drainage project was to lower the water level in the wetland by 0.03 metres to stabilize the roadbed. Manitoba Highways Department had approached all the downstream landowners and had received their consent for the project. They had also approached the Rural Municipality of Russell and had received their consent. As a result, the project had been considered a 'protection of infrastructure' and with no downstream concerns, the project had been approved by SaskWater and Manitoba Water Resources Branch. (It was noted that the resident beavers had already dammed the ditch and raised the water to the original level.)

Following the presentation on Shellmouth Dam Planned Winter Operation the Committee commented that the Lake of the Prairies was not kept high enough for optimum recreation and adequate fish habitat; however, there were not any fish kills during the summer of 1998.

It was reported by the Committee that some works had occurred that would add additional drainage water to Boggy Creek runoff.

Following the Drainage and Flood Control Committee Presentation on Hydrologic Modeling the Committee inquired when the results would be available. It was indicated that preliminary results would become available in late January of 1999. It was further noted that this model was a major working tool of the Study and would offer a comparison of changes on the landscape in a window of over 40 years.

It was noted that there had been a lot of bank erosion along the Assiniboine River in the Kamsack area that further suggested that the rate of erosion had increased in the past few years. The Committee inquired if the sediment increase in the water had shown up in the water quality samples taken at the Kamsack station. The Study Directors had noted the inquiry and would report back to the Committee.

Lower Assiniboine Local Watershed Committee

As noted at the meeting held in Russell in October 1990, the ditching along Highway 16 in Manitoba had been a major concern of the Committee. Regarding that ditch that was constructed along Highway 16 in Manitoba, close to the Saskatchewan border, the Study Directors had received information that the Manitoba Highways Department had received an exemption under the Moratorium on Drainage to drain a wetland that had an area of about 2.2 hectares. The drainage project was to lower the water level in the wetland by 0.03 metres to stabilize the roadbed. Manitoba Highways Department had approached all the downstream landowners and had received their consent for the project. They had also approached the Rural Municipality of Russell and had received their consent. As a result, the project had been considered a 'protection of infrastructure' and with no downstream concerns, the project had been approved by SaskWater and Manitoba Water Resources Branch. (It was noted that the resident beavers had already dammed the ditch and raised the water to the original level.)

The Committee inquired if an environmental license had been required for a project of this size and magnitude. They were informed that a license had not been required in Manitoba. The Committee further inquired about what would have happened if one downstream landowner had a legitimate or valid reason for not agreeing to the project. They were informed that if that had been the case, the project would not have been approved.

It was noted by the Committee that the only drainage application that had been brought to the Study Committees was the application from Fishing Lake, and it had been the applicant that brought the information to the Study. It was pointed out by the Committee that their application had been turned down.

Concern was expressed that the wetland has enlarged over the years, a parallel situation to Fishing Lake. Without the improvement of the outlet, levels may never go down and may be because of the drainage going on in those areas. It was hard to understand the solutions to the problems without the cause being investigated and understood.

The Committee raised the question whether it had been a violation of the Moratorium on Drainage to undertake construction of the Marchwell grid including the installation of bigger culverts that had been partly paid for by the local Conservation and Development area. The Study Co-Director for Saskatchewan had indicated that he would look into the background and provide information at a future meeting.

One member commented that there had been no local control over the installation of highway culvert sizes or locations; these projects have just happened. It was suggested that Highways have increased their culvert size without local approval or involvement. Roads have acted as a control or deterrent to the flow. Highway ditching and culverts have historically caused erosion and damage throughout this area and local residents have never received any cooperation from the Highways officials; all they have done was to sympathize with us.

NOTE: *Following this meeting, the Study Directors had investigated how the installation of larger culverts in road construction had been treated under the Moratorium. Both Manitoba and*

Saskatchewan do not license waterway openings in roads under their respective acts. Therefore, increasing the size of road culverts did not fall under the terms of the Moratorium on Drainage.

One member of the Committee inquired about the amount of marginal land that was being brought into production. It questioned if the Study had used soil information to define whether this land (the definition of marginal land has been based on soil type) has been suitable for crop production.

Following the Drainage and Flood Control Committee Presentation on Hydrologic Modeling the Committee members expressed interest in the land cover changes and impacts that had occurred. It was explained that this was one of the factors that had been included in the model and the impacts would be included in the results. The model was being applied to the complete basin and utilizes all available information, which has been digitized and entered into the database. Regarding the changes in farming practices, for example continuous cropping, the model would be checked to see if it could accurately differentiate these conditions when it calculates results. It was noted that the model deals with conditions over large areas and may not be capable of assessing areas much smaller than the typical sub-basin area of several hundred square kilometers.

It was suggested that the rest of the Assiniboine River to the confluence with the Red River in Winnipeg should have been studied in consideration of the upstream man-made changes that have and were continuing to occur. The Manitoba Study Director advised that a group called the Assiniboine River Management Advisory Committee had been formed some time ago (March, 1994) to address water supply issues in Manitoba.

4.10 February 1999 - Tenth Committee Meeting
Topic: Discussion of Possible Solutions for Water Management Concerns and Problems

At this meeting series, the Committees reviewed the concerns and problems of the Basin and developed suggestions for solutions. Each of the six Local Watershed Committees participated and the following is a list of their solutions. The results from all Basin Committees have been included in the following list

Solutions for the Upper Assiniboine River Basin

The suggested solutions compiled here were put together from all the Committee Meetings throughout the Basin in February 1999. They are to provide a basis for discussion as the technical results of the Study are tabled at forthcoming meetings.

Drainage, Flooding and Water Supply Solutions

- Proper management of drainage must start with a return to existing natural channels. A new drainage policy is required that addresses the needs of farmland.

- There should be adequate resources to improve and provide an effective and workable process for the development and approval of farm drainage programs. Farmland should be protected.
- Additional structural and regulatory controls on drainage need to be added to improve the flexibility of the system.
- Input from all drainage and water management planning throughout the Basin should form a part of the Shellmouth Dam operating plan.
- Flood damage reduction programs are needed.
- Any proposed change in flow control anywhere in the Basin should be developed in an entire Basin context. Local input, in cooperation with provincial and municipal governments should be introduced.
- Consideration of the effects of road ditches and culverts should be included in flow management to ensure that they do not impede or alter the flows during runoff conditions.
- An effective mitigation program should be in place for unforeseen downstream problems created by drainage.
- All Basin residents should be fully informed about the water management system with all residents and local governments having the opportunity to be involved in the water management.
- Land clearing and logging on both public and private land should require government approval, and any such approval, should consider all water management concerns.
- Land improved by drainage programs should be reclassified to reflect the improvement.
- Incentives grants should be available to encourage soil and water conservation.
- Consideration should be given to small irrigation projects for high value crops.
- Adequate and safe domestic water supply should be provided to all communities.

Water Management Solutions

- Flow management must be Basin wide.
- Water management legislation needs to be up-dated to reflect the recommendations developed in this Study.
- Adequate resources need to be made available to inform everyone about drainage and land improvement regulations that are contained in the existing legislation and any new regulations or legislative changes.
- Adequate resources need to be made available for the effective detection of unapproved (illegal) drainage and subsequent enforcement of drainage regulations.
- A Basin wide strategy for the future operation of the Basin needs to be in place and the strategy must include the operation of the Shellmouth Dam.
- All governments have to work together and standardize the regulatory water management requirements for Saskatchewan and Manitoba.
- The implementation of Manitoba Conservation Districts on a Basin wide basis should be considered.
- Agricultural support and land use considerations are important to the provincial economy and should be recognized as such in all water management planning.
- Water and soil conservation programs should form part of all Basin management activities.

- Local problems such as 'Fishing Lake Flooding' should never happen but, if they do, they should be rectified effectively and quickly to reduce the human and environmental costs. The Fishing Lake problems should be resolved.
- Better public information programs should be put in place.
- Competition between governments as well as competition between government departments for management authority should stop. Agriculture and environment departments should set an example and begin working together immediately.
- There needs to be better planning and help with water management planning.

Water Quality Solutions

- Water testing should be cost free.
- Support for organic farming and natural wetlands is necessary.
- Incentive programs and enforceable regulations to reduce stock watering directly from creeks and flowing watercourses should be developed.
- Regulation and supervision of sewage treatment systems and landfill sites should be increased. All landfill sites should be 'approved' or shut down.
- Develop a support program for engineered wetlands to augment sewage treatment.
- Chemical companies should be more active in supplying information on chemical use, long-term behavior of chemicals, and environmental impacts.
- Chemical companies, governments, and users should all take action to minimize chemical use, control chemical application, and uphold environmental regulations.
- Action is required to control agricultural pharmaceuticals that exist in animal waste.
- A clear understanding of the impact of chemical application and management should be provided.
- Proper control of potential contaminants at their source would prevent their entry into the water environment.
- Land management and water quality should be considered as a package.

Waterfowl, Big Game and Beavers Solutions

- The areas identified as 'wetlands' that are currently in existence throughout the Basin area need to be protected.
- Waterfowl and wildlife enhancement programs should mitigate all subsequent agricultural damage and reduced productivity. Funding for this mitigation should be provided by those sectors of the provincial, national and international community who benefit from the results.
- Waterfowl enhancement programs should be developed in close cooperation with landowners and should provide adequate mitigation for crop damage.
- Waterfowl lure crops should only be created with the approval of the local government and the surrounding landowners.
- The purchase, designation and creation of new or reclaimed waterfowl or wildlife areas should be subject to local government approval and should be taxed accordingly.
- Should be no cost to the landowner or effect on the adjacent lands.

- Crop loss from all wildlife and waterfowl should be fully funded (100%) by a universal program sponsored by all levels of government, non-government agencies and organizations like Ducks Unlimited.
- There is a need for the development of wildlife enhancement programs that fully acknowledge the damages to crops that can result when such developments take place in close proximity to production areas.
- Wildlife support programs should pay their share of the management costs of affected land.
- Management practices that do not actively benefit the landowner should be cost neutral at least.
- A universal beaver control program should be developed, managed and implemented on a long-term basis.

4.11 April 1999 - Eleventh Committee Meeting
Topic: All Committee Basin Tour

The Committee Chair and the Study Directors attended for the tour. A total of 34 Local Watershed Committee members attended. The tour was split into two tours, the west side of the Basin and the east side of the Basin. Both tours occurred at the same time.

West Tour Participant Comment Summary

- Illegal drainage is still happening.
- Resolution of the local impacts of high Fishing Lake water levels needs to progress.
- Cooperation between landowners is needed to resolve their individual drainage problems.
- Farmers do not want to see all wildlife disappear from their farms but how many ducks are needed and how much land taken out of production to protect them.
- Environmental pressures are viewed as unfair by the farmers who rely on drainage for agricultural production on their land
- Financial and taxation realities of farmers and the agricultural business are not fully recognized by other citizens.
- Farmers are helpless to resolve the agricultural and environmental issues on their own.

East Tour Participant Comment Summary

- People felt that more illegal drainage is happening in this area than in the western side of the Basin.
- At Shellmouth Dam, Saskatchewan farmers did not appear to be concerned that increased runoff causes downstream problems. It was explained that increased runoff causes a reduced flood control capability downstream impacting others.
- It was noted that the Rural Municipality controlled drainage in the Upper Smith Creek basin. Individuals wondered how effective it is and how it is operated with all the farmers involved.
- Those in the Buchanan Conservation and Development area noticed that the Langenburg and Churchbridge area is very similar to theirs but it has more wetlands that are deeper.

- The problems in the Langenburg and Churchbridge area, such as channel clearing through Ducks Unlimited property have being experienced by the Buchanan Conservation and Development area.

The following is a condensed report originally prepared by Bill Anaka of the Yorkton Committee who attended the Eastern tour.

We left Yorkton at 0915 in three vans, a total of 28 people, mostly from Yorkton, Canora, Foam Lake, Preecville area and 5 residents from Shellmouth and Langenburg as guides.

The first stop was at Roblin lagoon, a new 40 acre site completed late last year for secondary treatment and a proposed tree plantation that will absorb all treated effluent except in high precipitation years.

Next, we proceeded to the Shell River and Shellmouth dam site and on to Blackbird Creek (eight foot culvert-starting to wash out grade), the Assiniboine River and a lunch stop at the ghost town of Shellmouth. Once a thriving community with a full complement of business places including stores, machinery outlets, fuel dealers, elevators, schools, community center, and now reduced to a few houses still in use. Many of the buildings either abandoned or removed. A small local park of about one acre or more appears to be used or at least looked after. The curling rink is still standing but long abandoned.

After a picnic lunch, we went on down river and out to the southwest to view the water flow into the basin from Smith and Blackbird Creeks. A number of culverts running at or near full flow were noted, despite below average winter precipitation.

Our two main guides for this stop lived and farms in the area below the dam. They pointed out where flooding on the river bottomland occurred several times in the mid to late '70s and again in '95 when the whole valley was in complete flood. The flow over the spillway was 6 1/2 feet deep. Their message was, controlled water release in spring. They were not directly opposed to drainage ditches but felt water should be permanently retained in larger sloughs and any water released needed to be controlled to prevent downstream damage.

The reeve of Langenburg Rural Municipality took us to numerous sites on the Smith and Blackbird creeks. He suggested that the Rural Municipality was managing water flow adequately. He showed us channel clearing that the Rural Municipality has done and we saw some new channels, and clearing, but they obviously included deepening in many places.

A number of tour participants expressed well-balanced opinions realizing that ditching was a fact but controls were needed to prevent downstream damage.

Tour Summary

At the end of the tours, it was noted by the Committee members that illegal drainage is still happening through the Basin. In Fishing Lake the water levels continue to be high and local residents are looking for progress on the resolution of the problem. Landowners throughout the area are also looking for resolution to the problem of excess water that is negatively impacting

their farm production and it was noted that landowner cooperation is needed to resolve these drainage problems.

Farmers do not want to see all wildlife disappear from their farms but nobody knows how many ducks are needed and how much land would taken out of production to support them. This was a predominant unanswered question.

4.12 June 1999 - Twelfth Committee Meeting
Topic: Water Quality Committee Presentation – Technical Results

The Local Watershed Committees were combined for this series of meetings with the Upper Assiniboine Local Watershed Committee, Upper Whitesand and the Lower White Sand Committee meeting together. The Lake of the Prairies and the Lower Assiniboine Local Watershed Committees met together and the Yorkton Local Watershed Committee remained the same. It was noted that the Committee total attendance was lower than usual however that might have been due to locally conflicting activities.

It was noted by the Committees that only one 'full spectrum' testing site in the Basin was available and that was not adequate to provide useful information for future planning nor for accurate monitoring that would assure public safety.

4.13 August to October 1999 - Thirteenth Committee Meeting
Topic: GIS Committee Presentation – Historical Land Cover Comparison

This series of Committee meetings began in August and was interrupted by a Provincial election in Saskatchewan and the Combined Committees meeting of the Upper Assiniboine, Upper Whitesand and the Lower Whitesand Local Committees was delayed until October.

The Committees were informed that the current Study agreement runs out in the fall of 1999 and an extension was requested and ratified by the three government partners. The Committees were informed that the Moratorium would continue in place until June 2000.

Regarding this and the Moratorium on Drainage the Study was reminded by the Committee members that the excessive rain this year has again created a situation where more farmland is inaccessible. Extending the Moratorium on Drainage extends the drainage problem and more unauthorized drainage would likely occur. All the Committees underlined the need for the Study to fully address the issues and problems that had been identified and to be aware of the need for a hasty completion of the Study. The Study was also reminded to address the need for a 'correct environmental balance', taking into account the effects of drainage on the overall ecosystem, the area being drained, the downstream impacts during summer and spring runoff.

The Committees were informed that work was underway to compile existing information on Basin issues, to compile information on the existing water management framework (policies, programs and legislation Manitoba and Saskatchewan), develop Basin water management objectives recognizing Manitoba's water management objectives (Water Policy Document) and Saskatchewan's water management objectives (Water Management Framework) and to develop water management strategies for the Basin based on information and data collected to date.

The findings presented for this series was GIS (Geographic Information System) mapping of the Study. The presentation included examples of the scope of the information mapping of the area and the difficulty with the 1957 base line information. It was explained that the 1957 land cover information obtained from the 1St Edition NTS (National Topographic Maps) is inconsistent. It has been found through GIS analysis for many areas of the Basin the NTS maps improperly recorded and even omitted information. The current (1990s) land cover information obtained from satellite imagery is much more complete and accurate. This makes comparison of the two data sets results difficult.

The GIS land cover information is a major component of the SLURP model (a water flow prediction computer model). However the lack of good 1957 data has been a major disappointment. It should be noted that the 1957 data were interpreted back in the late 1950s 'by hand'. To redo the Basin would involve interpretation of over 500 air photos, costing in excess of $250,000 and take a minimum of six months. Alternatively, several smaller highly drained watersheds with water flow information could be identified for air photo interpretation of land cover within the Study budget and time frame. This information could be used to draw inferences or conclusions that might provide insight on the impacts of drainage from highly drained watersheds in the Basin.

The SLURP Hydrologic Model will assess land cover changes and their impacts. Land cover is one of the major factors in the model. The model will be applied to the complete Basin and utilize all available information that has been digitized and entered into the database. The changes in farming practices for example, from summer fallow practices to continuous cropping will be checked to see if the model can accurately differentiate these conditions when it is calibrated. From these examples, you can see the importance of the 1957 baseline. However, because the model deals with large conditions the extrapolated data should produce accurate enough results to provide direction for future water management in the Basin. There is no doubt that this model will grow in accuracy in the future as more accurate data are available.

Committee members expressed concern about the SLURP model being able to provide useful information for sensitive drainage areas like the Spirit Creek and Spirit Lake Watershed areas. The Committees reemphasized the need for the Study to find a solution for agriculture so that the industry can make maximum use of the land without causing problems. All Committees urged the Study to assure that the SLURP model would be completed and that resources would be assigned for completion and continued operation after the Study.

4.14 December 1999 - Fourteenth Committee Meeting
Topic: Water Supply and Use Committee Presentation - Technical Reports

At this stage in the meetings of the Watershed Committees, the Chairman reminded the Committee members of the task they had undertaken and the responsibility they had to respond to the water management recommendations. Committee Chair, Gordon Mills commented that: "We need to be sure to understand the Study process that we are using here, as we near the end of the Study. We only have a few more meetings left and we have some important issues to review. There are six study groups that have the responsibility of to review the water problems as they apply to the Upper Assiniboine River Basin. To help in developing an understanding of the many complex problems, in the neighborhood of forty information documents have been given out and before we are done there will have been a total of twelve information presentations providing facts and figures about the Basin. You will have been provided as much information that time and resources allow and you will have background knowledge on the full spectrum of water resources to enable you to respond to the water management recommendations effectively."

Combined Local Watershed Committees

Upper Assiniboine, Upper Whitesand, Lower Whitesand and Yorkton

The Upper Assiniboine, Upper Whitesand and Lower Whitesand Committees met as a group. The Yorkton Committee met separately but their comments are included together in this section.

Regarding the SLURP model and the GIS input discussed at the Thirteenth meeting, it was pointed out by a member of the Committee that the development of SLURP provided a tool that could be used in the future with the input of more information, introduced into the model as the information became available. SLURP would provide a long-term tool that would be a benefit to planning in the Basin, using the Study as a starting point. New technology, including satellite imagery, would make this tool more useful.

Following the presentation on water supply, it was noted that there was enough water to create small water holding dams and weirs throughout the Basin to augment water supplies for diversified farming or other needs. It was also noted that these small dams could be used to help farmland drainage by providing short-term storage and would help stream-flow conditions by providing a more constant and regulated stream-flow. This concept would be subject to the requirement that Saskatchewan must pass one-half of the natural flow to Manitoba each year.

It was noted that there was considerable information on ground water but that all the information was not catalogued. Wells throughout the Basin ranged from 9 metres to over 60 metres in depth and there were areas where flowing water could be found on the surface. It was also noted that there were a lot of old wells that had not been correctly filled or capped off, and people were being cautioned to be on lookout for these wells and to fill them correctly to remove the danger.

Lake of the Prairies Local Watershed Committee

It was pointed out that the whole reason for this Study was drainage and the subsequent downstream effects. The SLURP and GIS information was supposed to provide information on this subject. The question placed before the Study by the Committee was, "If SLURP and GIS cannot provide accurate and complete information on the changes, what other methods do we have to measure the changes?" It was also commented that the Study should continue until the necessary information was available, and the necessary resources should be made available to obtain this information, no matter how long it takes.

Lower Assiniboine Local Watershed Committee

It was stated by several Committee members that they felt that the Moratorium on Drainage had not worked and was not working. It was also noted that moratorium violations had occurred throughout the whole Basin. Any investigation should have included the whole Basin. (This request was formerly transmitted to the Study Directors for their attention.)

Regarding aquifer recharge, concern was expressed about the reduction of surface water because of drainage activities.

A request was made to be forwarded to Sask Water for a public hearing that would include verbatim records and a formal procedure to consider the current drainage works being carried out in the Langenburg RM. (This request was formerly transmitted to the Study Directors for their attention.)

One member noted that the question, "How much of the land can be farmed?" had been asked by the Committee two years ago and had not yet been answered. (This request was formerly transmitted to the Study Directors for their attention.)

A request was made for information regarding the cost to Sask Water of present ditching and culvert placement in the Langenberg RM. (This request was formerly transmitted to the Study Directors for their attention.)

It was requested by a member of one Committee that the following comment be recorded verbatim. "That the study have a lawyer or someone legally qualified attend the Local Watershed Committee meetings to discuss the legislation and laws that govern the water rights so that a clear understanding of those rights could be established."

4.15 January 2000 - Fifteenth Committee Meeting
Topic: Wetlands Committee Presentation – Technical Reports

The Wetlands Technical Committee presented their initial findings at this series of meetings. The Upper Assiniboine, Upper Whitesand, and Lower Whitesand Local Watershed Committees met together while the other Committees met separately to accommodate local activities, and avoid conflicts that would have reduced attendance.

Upper Assiniboine, Upper Whitesand, Lower Whitesand Combined Local Watershed Committees

The Committee was informed that, although the duck population was increasing, the duck nesting success was currently lower in Canada then the US. The Committee was also informed that the impacts on waterfowl were high as the habitat changed to agriculture. It was noted by members of the Committees that croplands had been a benefit to habitat and, in the matter of carbon sequestration, (impounding or collecting) there was benefit.

Information was requested about the impacts of predators such as foxes and coyotes that had experienced a population burst. There was no information on these population numbers available.

It was also noted that the proliferation of beavers had created wetlands in the forested and treed areas. It was stated that beavers had reached a level where their activities were creating excessive damage to farmland and that nothing was being done. It was noted by committee members that the problem was further worsened because farmers have been prohibited from removing beaver dams and ponds.

Committee members expressed concern that the Study had been focused on wetlands and not on agricultural needs or on land management practices that supported agriculture rather than waterfowl.

Yorkton Watershed Committee

A member of the Committee inquired about the importance of existing habitat. The Committee was informed that it was everyone's responsibility to decide what habitat should be maintained. The existing conditions at the time of the Study had allowed most duck species to develop, however, some duck species had not reached their predicted populations and this was probably due to habitat conditions.

Regarding current wildlife populations and numbers data, the Committee had been told that the waterfowl population data would be contained in the full report, which was not yet available.

The Committee was also informed that, at some point a decision would have to be made regarding the conversion of habitat land. As mentioned at other Local Committee meetings it was noted by members of the Committee that croplands had a benefit to habitat and, in the matter of carbon sequestration, (impounding or collecting) there was benefit.

The Committee commented that the cost of retaining habitat needed to be shared with all urban and rural citizens to achieve the suggested goals. A short discussion on large, economically driven, farming businesses and their impact on the environment had followed.

Lake of the Prairies Watershed Committee

Considering the land uses in place at the time of the Study, the Committee had noted the complexity of developing a solution that would offer a balance. It was noted that, while many land use policies of the past were supported and reinforced by the government of that day, these policies had helped create the conflict between land development and wetland preservation. It was also noted that the conflict between conservation and agriculture was real, and resolving it would require the participation and financing of city dwellers as well as the rural and farm community. It was suggested that a financial support program needed to be created to ensure the preservation of wetlands. Changes were needed and they should happen with the development of a logical and respectful program rather than 'helter skelter, measures here and there around the country.

This Committee had also commented on the carbon replacement issue, suggesting that there was value in agricultural production in the replacement process. There was a short discussion on large, economically driven, farming businesses and their impact on the environment.

Lower Assiniboine Watershed Committee

In response to questions, the Committee was told that deer and other wildlife counts were not available. The only continuous counts that had been done were on waterfowl. There had been no plans to conduct deer counts because of the cost. The numbers being used for deer were based on average year estimates. It was noted that deer populations tend to vary about 25 to 30 percent up and down, based on the winter conditions and other factors.

The international interest and the availability of the resources provided by the Canadian Wildlife Service and the United States Fish and Wildlife Service were identified as factors in the positive attention paid to waterfowl. The funds generated by hunting licenses were also a factor in making the survey of waterfowl important at the time of the Study. A Committee member commented that it had appeared that the measurement used to determine the health of the environment was the number of ducks. There had been no attention paid to the environmental benefit of the aspen cover, because it was not duck habitat. It was stated that the emphasis on ducks did not provide an environmental balance.

It was noted that most farm operators understood the need for habitat, but that there was inadequate financial support to make their land available for that kind of use. (It is important to note that this was a universal comment from all the Committees.)
It was also again noted by members of the Committee that croplands had a benefit to habitat and, in the matter of carbon sequestration (impounding or collecting) there was benefit. There was a short discussion on large, economically driven, farming businesses and their impact on the environment.

4.16 February 2000 - Sixteenth Committee Meeting
Topic: Drainage and Flood Control Committee Presentation – Technical Results

At this series of meetings, the Drainage and Flood Control Technical Committee presented their findings.

Combined Local Watershed Committees
Upper Assiniboine, Upper Whitesand, Lower Whitesand and Yorkton

The Committee asked if the SLURP model would ever provide the information needed to manage the Basin. Regarding this, it was suggested that land cover changes would continue to impact the predicted volumes of water and it was further suggested that a simple change of crop or farming method would change water runoff characteristics. The ability of the model to indicate the best type of land cover in relation to water management criteria was questioned. It was indicated that this could be one of the future results but that the model was not currently ready to provide them. It was noted that land cover change impacts could be less than initially predicted.

It was noted that the condition of the SLURP model currently provided no benefit to agricultural planning or the Basin Study.

The Committee commented on how, to a large extent, farming market prices drive the crops and land use changes that occur from year to year.

One member commented that the best thing that could be done would be to get rid of the water and send it to the Lake of the Prairies, which would also provide an opportunity for improvement of the small swamps that would be flushed out. It was also suggested that several, as many as needed, small reservoirs with functional controlled drainage could also be created.

It was also suggested by a member of the Committee that, because Canora now had a good water supply, Fishing Lake could be lowered.

Yorkton Local Watershed Committee

A member of the Committee questioned if there was 'scientific' information that supported the theory that croplands have a net benefit because of carbon sequestration (impounding or collecting). It was noted that the short growing period would likely be offset by bio-decomposition and the straw burning that occurs on agricultural land. The Committee felt that more information would be required on this topic.

The Committee discussed the SLURP model. They were advised that, with the loss of accurate base line data due to the inconsistent translation of the data from 1948-49 and 1950, it had become necessary to create a new base line that was, currently, too recent to provide comparison information. Continuing the development of the model would provide the ability to manage land

drainage more effectively in the future. The Committee agreed that there was a need for more information for good land and water management.

Lake of the Prairies Local Watershed Committee

A member of the Committee questioned whether the impact of drainage could be properly examined without the information that would have resulted from the SLURP model. The Committee also questioned the value of the Moratorium on Drainage if the Study was unable to determine the effects of drainage.

A member noted that drainage planning should be developed from the outflow upstream. It was also noted that it would be impossible to understand flow changes unless some technical information was available, as the numbers have to be seen to be understood. It was noted that there was a reasonable understanding of the problem at the top of the Basin, where the water lies, and there was understanding of the situation along the watercourses to the main stream in the valley bottom, but there was no clear understanding of the impacts on the main stream.

It was also noted that most agricultural producers acknowledged the need for wildlife habitat however, no one had clearly defined how agriculture and wildlife habitat could occupy the same area and have both survive.

Lower Assiniboine Local Watershed Committee

The Committee inquired into the opportunity they would have to react to the strategies to ensure that their experience and opinions were considered. It was reported that the strategies would be presented to them when all the Committees would be invited to Yorkton on February 19th. In March, a series of Committee meetings would be held to discuss the strategies.

A member of the Committee requested that a lawyer attend a meeting and pointed out that the Committee had made this request before. It was noted that there was a presentation on legislation and regulations pertaining to land drainage in each province discussed at the December 1997 meeting.

It was pointed out by the Committee that the Study was mandated to examine the effects of drainage on flooding and they questioned whether the strategies would deal with the unauthorized drainage that had occurred before, and after, the Study began. It was noted that, for a number of reasons, the Moratorium on Drainage had not achieved what it had set out to do.

Concern was again expressed about the Moratorium and the regulatory management of the Basin following the Study. A question was raised regarding the schedule for implementation of the Study recommendations. Members of the Committee underlined the need to implement a system that would recognize the need to consider the downstream impacts and introduce cooperative regulation, sooner rather than later. It was pointed out that, surprisingly, water runs down hill and on the way down, everybody is affected one way or another. A member of the Committee commented that, when controlled drainage works were developed to allow regulated releases in wet years and retention in dry years, there would be a value to all farming activities.

4.17 March 2000 - Seventeenth Committee Meeting
Topic: Discussion of Draft Strategies

This series of meetings was a follow up to of the Strategies Workshop held in Yorkton on February 19, 2000 and was held with each of the six Local Watershed Committees in March.

All Committee members concerned with the Strategies being discussed made several comments. These comments were being used to help relate the Strategies to the draft recommendations. It should be noted that the Strategies were an important part of the approach in developing the draft recommendations to solve the problems identified during the Study.

Upper Assiniboine Local Watershed Committee

It was noted by the Committee that, the Strategies needed to create a focus on the need for solutions to the beaver infestation, water quality, and domestic water supply. In the upper reaches of the river, the area is more heavily forested and there had been more cattle farming. Negative impacts on the river had been minimized in this area because there were little or no cattle watering on the riverbanks. Future land clearing and logging would impact the area negatively.

Upper Whitesand Local Watershed Committee

The Committee noted that Fishing Lake was continuing to experience problems generated by the high water and the restrictions on works that would increase the outflow. It was felt that management strategies should address this problem

Lower Whitesand Local Watershed Committee

The Committee commented that it appears that no one department or office appears to take the responsibility for water management. They noted that this should be corrected otherwis conflicts and regulatory variance will continue. They also suggested that funds for water planning should be made available at a local level.

The Committee expressed concern that they had not seen the study recommendations and requested an opportunity to see these recommendations before the final decisions were made.

Yorkton Local Watershed Committee

Following a discussion about involvement in the Study and comments about the need for more information, the Committee reminded the Study that it had been indicated that definitive technical reports on the Study topics, the 'meat and potatoes', would be available to the Committee in the final phase of the Study. This Committee also indicated that it appeared that agricultural production was not a consideration in the Study Strategies.

In addition to several other suggestions about the strategies, the following motion was presented.

Motion:

"That the Committee is provided a draft of the final Study technical reports and the draft final report so that they can make informed comments in adequate time before the final report is completed."

Moved by Jerry Cheshuk and seconded by Les Herauf

This motion received unanimous approval.

The Representative from the City of Yorkton indicated that he (Mr. Cheshuk) would find it necessary to inform the City that the Study had failed to fulfill its obligation to provide the Committee with the information needed to make meaningful recommendations on behalf of the City. He would then be recommending that the City withdraw from the Study.

Lake of the Prairies Local Watershed Committee

At the end of the Committee meeting, after a thorough discussion of the strategies and their content, the following motion was presented and discussed.

Motion:

That the Upper Assiniboine River Basin Study be continued so that this Watershed Committee can review the final technical reports and the draft final report.

The Motion was moved by Gerald Schepp and seconded by Geordie Daneliuk
This motion received unanimous approval.

Lower Assiniboine Local Watershed Committee

Following an intense discussion about the Study methodology and results, some members of the Committee pointed out that the strategies did not address the stated Study objectives. The discussion also focused on the need to resolve the drainage issues and the consequences to agricultural production. In addition, the Committee expressed concern that they had not been provided the final technical reports and the final draft of the Study report before they were asked to comment on the strategies. Because of the discussion, the following two motions were presented.

Motion 1:
That the Committee has an opportunity to see a draft of the final Study report in adequate time before it is published.

Moved by Kelvin Nerbas and seconded by Neil Mehrer
This motion received unanimous approval.

Motion 2:
That the Study continue the Committee meetings so that all the final technical reports and the draft of the final report can be presented for explanation and discussion.

Moved by Gene Nerbas and seconded by George Boucher
This motion received unanimous approval.

The members of the Committee listed below stated that they wanted their names removed from the record of participation if they were not provided an opportunity to review in Committee, the final technical reports and the draft final Study report before it is published.
Gene Nerbas, Rod Roden, Jake Haas, Neil Mehrer, David Zerr, Leo Fuhr, Darwyn MacKenzie.

In response to these requests during the March meetings, and the three motions passed by the Local Watershed Committees, the Study Management Committee recommended that the study term be extended to enable completion of public involvement.

The agreement signed by Canada, Manitoba and Saskatchewan to undertake the study placed a moratorium on approval of drainage works. The moratorium was established to curtail new drainage development so that no additional flow would be added to the Upper Assiniboine River system while hydrologic studies were underway. In order to provide a constant baseline condition against which comparisons could be made. Because the technical studies had been completed, the Management Committee recommended that the Moratorium on Drainage does not have to be extended beyond June 30, 2000. The responsible agencies in Manitoba and Saskatchewan undertook to provide interim guidelines as a basis for evaluating applications for approval to construct drainage works. These guidelines would apply until the governments receive the study recommendations and consider their implementation.

Information was sent to the Local Watershed Committee members to notify them of plans to extend the Study to enable the Committees to review the technical reports and the study report. Drafts of these reports were to be completed during the early summer.

5 Conclusions

5.1 Strategies Were Developed

As the Study reached completion, the Local Watershed Committees looked at several strategies to implement the recommended solutions. This occurred at a February 2000 workshop that was followed up with meetings with each Watershed Committee. Several comments and ideas were put forward during the process that assisted with the development of the final recommendations. Some Committee members also added their comments by letter. All of these comments assisted the development of the final recommendations. Some of the significant considerations were:

1. The Moratorium and existing legislation was not actively enforced and did not achieve Basin wide respect.
2. Planning must involve both the local and the downstream environment.
3. Compensation is needed for damage from artificial flooding, wildlife enhancement, and activities that change the environment.
4. Local input was requested on all activities that impact the land.

The Local Watershed Committees demonstrated both their knowledge and continued desire to participate in the development of the final Study recommendations.

5.2 The Study Recommendations Workshop

The members of the Local Watershed Committees attended a final Workshop on October 14, 2000 in Yorkton, Saskatchewan to review the Study Recommendations. Thirty-four Committee members attended. The session was chaired by: G. Mills with the assistance of Discussion Leaders: J. Towle, J. Waggoner, B. Collins, R. Woodvine and the comments were recorded by Recorders: D. Kozusko, J. Olson, S. Clarke, and B. Harrison.

Recommendations Response

Watershed Management

1. Watershed plans should be developed with local involvement as a basis for land and water management, development and conservation. One or more pilot projects to undertake watershed planning should be initiated as soon as possible.

Local Watershed Committee Response:
It was suggested that to achieve a meaningful implementation of this recommendation the responsible government agencies must work together and there must be a sensitive program of local public and stakeholder involvement. The Local Watershed Committee members generally agreed that the following considerations should also be included:

- The project size should be clearly defined.
- Project rational should be quantitative.
- The best management practices should be available.
- Watershed plans should be cross border.
- Funding and technical assistance from government is needed.
- Overall Basin impacts should be considered, 'The Big Picture'.
- For projects involving wetland planning, agriculture impacts should be considered.
- Projects should occur where the most stakeholder interest occurs.

2. Proposed drainage projects should be planned and approved within the context of a local watershed plan which considers the impacts at downstream locations. The plan should include operating guidelines for controlled drainage works and back flood projects so that downstream damages are minimized.

Local Watershed Committee Response:
Collectively, the Committee members supported this recommendation. They emphasized that, to ensure that the implementation would be consistent with both local and basin needs, agencies must cooperate with Basin residents, both in planning and subsequent operation of projects. They noted that proponents and technical agencies should reveal all the consequences of a project, and that operational controls should be incorporated into all projects to ensure that runoff would be handled properly with no one person in control at any time, regardless of the volume of the runoff. It was also pointed out that compensation, mitigation, and enforcement should be part of the planning of all drainage works and that flexibility and versatility should be necessary features of any planned project.

3. Measures should be taken to ensure the availability of adequate supplies of good quality water in all areas of the Basin. In particular, the expected expansion in livestock production will require a dependable supply of good quality water.

Local Watershed Committee Response:
The members of the Local Watershed Committee suggested that some careful projections on future use needs should be available to determine what adequate means. Regarding the commercial use of water, both from groundwater and surface water sources, the quality of the water and the treatment of sewage should be carefully considered before any concentrated livestock, pig barns, or any industrial uses are approved. It was noted that local improvement of domestic water supply continues to be needed. In the case of groundwater supplies, the Committee members suggested that programs that support groundwater recharge should be developed.

4. In-stream flow needs for maintenance of aquatic habitat and fisheries should be an integral part of future water management, particularly when changing the operating guidelines for a dam and when granting new water allocations.

Local Watershed Committee Response:
There was no doubt that this recommendation will be important to the local tourist and recreation industry. The Committee members also recognized the need to sustain the fisheries from an environmental perspective, and it was suggested that upstream retention of spring runoff for later

releases and the addition of groundwater to the stream flow should both help maintain in-stream flows.

5. Water quality should be taken into consideration when evaluating drainage projects. Criteria should be established for rating or evaluating drainage projects. A code of practice should be developed for construction of drainage projects to reduce impacts on water quality. The cumulative impacts of drainage on water quality should be considered in the context of a watershed plan.

Local Watershed Committee Response:
There was a strong suggestion that more water quality monitoring is needed to fully understand the real impacts of drainage and farm chemicals on the system. The information obtained from monitoring will be required for realistic implementation of this recommendation. Some 'streamlining' of the monitoring process will also be required to make sure that all the information is available and to expedite approvals. The use of local input was strongly recommended by the Committee, who also indicated that, if there is to be a 'code of practice', it should be clearly defined. The Committee suggested that consideration of stream bank development that included grasses and other beneficial plants would assist in the maintenance of water quality. Finally, Committee members suggested that a well developed water quality education process should be available to Basin residents.

6. Where drainage projects are approved, the construction of works such as back flood projects or controlled drainage should be promoted to minimize adverse downstream effects.

Local Watershed Committee Response:
In implementing this recommendation, all drainage works, both existing and new, should be considered, as they all could contribute to problems. It was noted, however, that the flow in the Assiniboine River should be used to gauge the need for application of this recommendation. It was suggested that a code of practice should be developed and used to make implementation of this recommendation effective. Committee members stressed that there is a role for government in providing planning and incentives.

A critical function of the Study was to provide some information on drainage impacts. It was pointed out by Mr. Gene Nerbas, a member of the Lower Assiniboine Local Watershed Committee, that the Study had failed to meet one of the major goals, which was to determine the contribution of drainage to flood peaks above the natural flows. Until this contribution is known, Mr. Nerbas suggested that many of the Study recommendations are meaningless and, perhaps, in error.

7. Best Management Practices for agriculture and other industries should be developed and promoted with emphasis on surface water and groundwater protection.

Local Watershed Committee Response:
The Local Watershed Committee members suggested that this recommendation should be augmented to include management practices for wetlands as well. Comprehensive wildlife population counts, including all significant waterfowl species, should be included in the

information used in the development of these management practices. One of the important missing parts of the information required to develop these management practices is the ideal ratio of farmland to wetland. The Committee noted that, when the best management practices are fully developed, they should be followed and enforced. It was also noted that there should be more local involvement with landowners adjacent to projects, as well as local governments, as these practices are developed and implemented, as the projects they pertain to will result in changes in land use. As an additional consideration, the proper management of groundwater, including both protection from over use and the decommissioning of old, unused, wells should be addressed in management practices.

8. Agricultural practices such as conservation tillage and permanent cover programs, which retain or reestablish perennial cover should be promoted as means to reduce runoff rates and volumes.

Local Watershed Committee Response:
It was generally felt by the Committee members that this was a good recommendation to reduce erosion and offset the impacts of drainage. It was noted, however, that zero conservation tillage would be almost impossible, due to the landscape and soil types in the Basin as well as the expense and difficulty associated with implementing this practice. Economics will dictate the success of the promotion of conservation tillage. Incentive programs could help in this area. The Committee strongly suggested that Ducks Unlimited be encouraged to adopt the same approach to land use in Saskatchewan as they use in Manitoba.

9. The livestock industry should be encouraged to improve riparian areas through alternative pasturing, livestock watering systems, and properly located and managed winter feeding sites.

Local Watershed Committee Response:
The Committee noted that, in some areas, particularly the tributary creeks, beavers were doing a lot of damage, perhaps more than livestock and that wildlife had been a major contributor to the giardia (beaver fever) parasite that is in most watercourses. If the livestock industry is to be expected to make changes, there needs to be an incentive program developed, as enforcement of this recommendation without assistance may put livestock producers out of business. The Committee members emphasized that all 'industries' should be subjected to these requirements.

10. Maintenance of natural vegetation cover around water bodies should be encouraged. Licensing preference should be given to drainage works that include establishment of vegetation cover such as grasses to protect the drainage channels from erosion. Buffer strips or bush adjacent to watercourses or waterbodies should be protected to reduce the potential for erosion or contamination of the receiving waterbody.

Local Watershed Committee Response:
According to several members of the Committee, scientific evidence is needed to explain the impact of wetland salinity and to determine the level of salts in wetlands before this recommendation is implemented. To discourage beaver infestation, brush should be set back an adequate distance and, at the same time, the optimum beaver population should be established and maintained. There was no doubt by the Committee members that a setback program would be

effective. It was suggested that 15 metres of grassed right-of-way would be adequate to discourage beavers. The members stressed that a good information program would help in the implementation of this recommendation.

11. Wells should be properly sited, constructed, maintained and decommissioned to protect groundwater from contamination.

Local Watershed Committee Response:
All members of the Committees agreed with this recommendation and added that there is a need to provide assistance in determining the location and development of any new well. The Committee members further recommended that existing wells be examined to ensure that they are properly constructed and that regular testing of the water from them should be undertaken. It was noted that the involvement of Sask Water, PFRA, and the local RM would be beneficial.

Policy, Legislation and Enforcement

12. A planning and approval process should be developed to support landowners and government resource management agencies in determining appropriate levels of development.

Local Watershed Committee Response:
The members of the Committees suggested that this recommendation may need some clarification. If its focus is on agriculture and wetland conservation, they noted that there may be a need for changes in both policy and legislation and that any such changes must be based on fairness. If it is in the interests of society to impact agricultural development, then everyone in that society should financially contribute to the cost. This means, for example, that land needed for the development of wetlands should be purchased rather than taken by rules or legislation. Local participation is also necessary in changes of this nature as this recommendation deals with basic watershed planning and operation, as discussed in Recommendation 1. Finally, if a sustainable environment is the goal of this recommendation, there will be a need for co-operation from the authorities.

13. An effective regulatory framework for drainage should be established which takes into account the resources and expertise required for proper review and enforcement.

Local Watershed Committee Response:
The general response to this recommendation was that it was incomplete and would probably be ineffective unless it included a number of additional factors such as:

- Clarification of the legislation.
- A process for the timely resolution of complaints.
- Adequate resources to fairly investigate complaints.
- A sound rationale, based on a local watershed plan, for refusing approval.
- Enforceable and attainable regulations and criteria.
- A locally developed, and possibly, locally administered, regulatory framework.
- A meaningful appeal process.

The Committee members went on to point out that there should be encouragement for the use of a project approval process that has attainable guidelines and that approval decisions should be prompt. Encouragement could take the form of financial or technical assistance.

14. Provincial and local governments should ensure that additional development does not occur within flood prone areas through a review of the processes for subdivision approvals and granting of building permits.

Local Watershed Committee Response:
The Committees pointed out that a clear, simple, approval process needs to be developed that applies to everyone. There needs to be an education and information document available that fully explains the rules to proponents, and that clearly identifies floodplain boundaries. All government levels have the responsibility to ensure that the rules are understood. In the matter of land transfers, which occur often, the rules need to be clear to all parties to the transfers and be included in the conditions of transfer. The Committee members also suggested that the rules should apply to all levels of government including villages, towns, and cities when governments undertake development projects. Finally, the Committees commented that everyone needs to accept the risk of their actions when they develop within a floodplain.

15. Economic and other factors faced by producers in their decision whether or not to drain wetlands should be considered in the development of environmental, social, or economic programs or policies to address drainage issues.

Local Watershed Committee Response:
This recommendation was generally accepted as a good and useful direction for the approval process. There were three considerations noted:

- Public consultation will make any required regulation more acceptable.
- Notwithstanding the need for public consultation, some individual or agency must be responsible for a final decision.
- Economic compensation should be included.

16. Regulations should be reviewed that apply to the construction and monitoring of facilities such as landfills, lagoons, chemical storage and pesticide container disposal sites. (Saskatchewan)

Local Watershed Committee Response:
There was no question amongst the Committee members that landfills, in particular, should not be allowed to operate unless they meet stringent regulatory controls. These regulations must be met at the time of development and the landfill operations monitored for compliance on a regular basis. It was pointed out that all of the facilities identified in the recommendation could impact both surface water and aquifers. On the issue of existing landfills, it was felt that they should also be subjected to all regulations, including monitoring.

17. Agencies responsible for surface water and groundwater management and protection should be encouraged to share information and develop a joint database of the current status of water quality.

Local Watershed Committee Response:
The Committee members suggested that the phrase 'should be encouraged', should be changed to read 'are required by law'. They went on to suggest that it is unimaginable that a government or non-government agency would not cooperate in the development of a water database within each province, but also inter-provincially and internationally.

Education and Demonstration

18. Water management agencies should expand efforts to promote awareness of the hydrologic processes that lead to floods, especially large floods, as well as the effect of water control projects on flow rates and water levels.

Local Watershed Committee Response:
The Committee members re-endorsed the development of the SLURP model and commented that good scientific knowledge is needed. This knowledge needs to be augmented with ongoing monitoring and a public education program that utilizes the Rural Municipalities, schools, open house presentations, public meetings, press, radio, and TV, including the weather channel and the learning channel.

19. Information should be provided on the value and proper application of manure as a nutrient-rich fertilizer.

Local Watershed Committee Response:
This recommendation drew serious concern regarding the existence of new drugs such as hormones and other growth stimulants in the manure. The Committee members also commented on the risks of residue from drugs used in the animal industry, particularly in feed lots, pig barns, Pregnant Mare Urine farms, elk farms or other intensive livestock management units. Committee members stressed the need for education and regulation, suggesting that a code of practice be developed and producers be made aware of the risks and their consequences. The Committee members also underlined the need for ongoing research.

20. Education activities should be implemented to caution pesticide users to avoid cleaning sprayers and chemical containers near open water and to apply product at the proper rates and follow label restrictions and recommended practices.

Local Watershed Committee Response:
Committee members endorsed this recommendation, commenting that it is imperative that education and information programs are continued, improved, and expanded into the urban areas. The creation of a code of practice was again suggested.

21. A public education program on proper well and aquifer management should be initiated to protect groundwater formations from contamination.

Local Watershed Committee Response:
The Committee members stressed the importance of groundwater. They commented that provincial agencies should take the lead in providing research, education, and regulation, particularly concerning the pollution of recharge areas from land fills, chemical and petroleum product storage, and spills. They also suggested that aquifer recharge areas should be identified and that this recommendation should be implemented on a province wide basis.

22. Agencies should provide coordinated and effective communication to the public and stakeholders on land management issues that affect surface water and groundwater.

Local Watershed Committee Response:
There was consensus that this was a good recommendation. It was suggested however, that the topic needs to be broadened to include wetlands. Soil productivity should also be considered as a factor. The governments should listen to the stakeholders, as the stakeholders should listen to the governments. Non-government agencies like Ducks Unlimited should only provide government approved information regarding these issues.

23. Information and extension programs should be developed to increase awareness of the importance of wildlife habitat (wetlands, uplands, riparian areas) in the Basin as well as the opportunities to implement land use activities that will benefit both agriculture and wildlife.

Local Watershed Committee Response:
While the Committee members recognized the importance of a healthy wildlife population it was suggested that there is an overpopulation of deer throughout the Basin. There were conflicting views on habitat. On the one hand, the centralization of habitat into one area was suggested, while on the other, integration of wildlife habitat with agricultural lands throughout the Basin was preferred. Still another comment suggested that there is enough wetland and wildlife habitat already existing. Wildlife and wetland habitat enhancement awareness was not universally endorsed by Committee members.

Research and Studies

24. Water and wetland management agencies should:

- Develop criteria to assist landowners in planning and resource managers in identifying wetland and upland habitat that requires protecting;
- Collect further data for very small, shallow wetlands to provide greater confidence in applying the area/volume relationship in the range of wetlands subject to contour ditching and V-ditching;
- Develop in-stream flow guidelines;
- Investigate structural and non-structural means to improve operational flexibility of the reservoirs;

- Undertake aquifer characterization including aquifer production capabilities and water quality analysis to define the groundwater supply and facilitate economic development;

- Develop aquifer maps to define various aquifers in the region with an emphasis on unconfined or vulnerable aquifers;

- Determine any long-term effects of lagoons on receiving water bodies through more extensive studies and monitoring; and

- Review the required quality of wastewater effluent and the procedures for its release to receiving waters.

Local Watershed Committee Response:
All Committee members responded favorably to this recommendation, suggesting only that implementation was imperative to the proper management of the watershed.

25. Research agencies should:

- Develop remote sensing technology for application to the detection of wetland drainage;

- Continue investigations into the relationship between snowmelt runoff and agricultural practices such as stubble management and conversion to permanent cover and clearing of bush;

- Continue research and development of practical watershed modeling tools which can be used by provincial regulatory agencies to assess the impact of drainage projects on watershed hydrology, and;

- Develop watershed models with improved simulation of hydrologic processes on the Canadian Prairies such as variable contributing area and wetland storage.

Local Watershed Committee Response:
There was a mixed reaction to the development of remote sensing technology as a tool for detecting wetland drainage. Some members felt that the information would be misused and become a surveillance tool rather than a research tool. There was concern expressed regarding the prioritization of available funds, which the Committee members suggested should be directed toward support of development projects.

Monitoring Assessment

26. An enhanced water-monitoring program should be implemented in the Basin to obtain data on actual surface water and groundwater usage and to ensure that all major usage is licensed and appropriately monitored. Efforts should also be made to improve the timely analysis of data where warranted.

Local Watershed Committee Response:
The Committee members unanimously supported this recommendation, stressing the need to license all major users.

27. Provincial agencies should continue to monitor developments in remote sensing technology with a view to future application in the detection of wetland drainage.

Local Watershed Committee Response:
Committee members indicated support but there were some reservations about the use of remote sensing technology.

28. Water and wetland management agencies should define common standards and definitions in the assembly of wetland databases.

Local Watershed Committee Response:
The Committee members agreed that this recommendation was essential to the development of good planning.

29. An inter-agency working group should be formed to continue assessing the hydrologic effects of wetland drainage and land cover change in the Basin using the knowledge base developed in this Study.

Local Watershed Committee Response:
The Committee members had no comment on this recommendation except to note that a good example of inter-agency co-operation could be a pilot project between Manitoba and Saskatchewan where such co-operation could be expanded to be inter-provincial.

30. Studies should be conducted to determine if engineering works are a practical method of reducing the risk of flood damages to existing developments in flood prone areas.

Local Watershed Committee Response:
The Committee members emphasized that planning for engineering works must carefully consider the impacts of these works. They noted that there is extensive information available to facilitate research on this recommendation and it would be expected that any impacts from works would be totally mitigated.

31. Testing of private groundwater wells should be encouraged.

Local Watershed Committee Response:
Committee members felt that this recommendation did not go far enough. They identified a need for information, education and follow up to enable well owners to benefit fully from the testing.

32. Groundwater monitoring should be done in the vicinity of potential sources of contamination (e.g., manure storage sites, chemical collection depots, landfills, discontinued bulk fuel depots, and gas stations) to determine whether contamination is occurring.

Local Watershed Committee Response:
The Committee members supported this recommendation, as it would provide a baseline to compare the impacts of future developments against.

33. Long-term monitoring of surface water quality and riparian health on a watershed basis should be implemented. Monitoring should be carried out to collect information to confirm the status of water quality and identify potential problems in the Basin.

Local Watershed Committee Response:
Committee members unanimously supported this recommendation.

Incentive Programs

34. Programs should be developed to encourage the retention of existing natural wetlands to conserve habitat.

35. Programs should be developed to encourage retention of those wetlands that provide significant benefits in controlling snowmelt runoff into the stream network in most years.

Local Watershed Committee Response for Both Recommendations 34 and 35:
The Committee members agreed with these recommendations. There were however, several suggestions regarding their implementation. Included in the suggestions were the following:

- Programs that are currently available should be retained.
- Land taxes should be revised to reflect wetland conservation.
- A program to pay for the retention of wetlands similar to one existing in the United States should be developed and implemented.
- More government and non-government agencies should be involved in wetland conservation.
- Diversity should be introduced into the recommended programs.
- The programs should target development and should be positive, not negative.
- The programs should support cooperation.
- Funds from the North American Waterfowl Management Plan (NAWMP) should be available for citizen use.
- Programs should be consistent with a Basin land use plan.
- Existing wetlands should be examined and a decision made on which ones should be retained.

36. Partnerships for the conservation of wetland and upland habitat should be pursued with non-government agencies and other interested parties.

Local Watershed Committee Response:
Several members of the Committees were adamant that Crown Corporations such as SaskPower should not provide funds to non-government agencies like Ducks Unlimited for wetland preservation. They noted that local area residents, in cooperation with government agencies, would be better qualified to implement conservation programs. They also noted that farmers

should be compensated for wetland retention, recognizing that everyone benefits. Good plans result from cooperation, public participation, inter-agency agreements, and inter-municipal agreements.

37. Beaver management programs should be developed. Specific problem areas in the Basin should be identified. Local governments and resource management agencies would work together to target management efforts.

Local Watershed Committee Response:
All Committee members agreed that provincial involvement is necessary to develop both control methods and universal programs that would be available for all Rural Municipalities.

38. Programs should be developed to encourage the adoption of compatible land use practices in flood prone areas in order to reduce damages to agricultural lands and urban developments located adjacent to streams and water bodies.

Local Watershed Committee Response:
The Committee members suggested that agreements should be reached between provincial governments and rural municipalities to compensate affected landowners. It was also suggested that programs to assist agriculture in the flood prone land should be expanded. Another suggestion was to encourage the restoration of mature native vegetation to minimize erosion. It was also suggested that the Flood Damage Reduction program that had been used in the past be re-introduced.

5.3 General Session

Following the group discussions of the recommendations a General Session was held and the following comments and motions were presented:

Committee member J. Panyo expressed concern about where we go from here and inquired as to what role the watershed associations can play. He wondered how the Fishing Lake Watershed Association could team up with other watershed associations to work together to solve the problems in the Basin.

Committee member G. Nerbas, referring to 'Approaches to improve the operating flexibility for Shellmouth Dam' on page 43 of the draft Final Report, noted the following with reference to the paragraphs under this heading:

a) Landowners have not been approached by the government on this.
b) One time compensation is not acceptable because the problem remains.
c) Acceptable.
d) This is not really wanted because of the extent of the work that would be required and the environmental impacts on the valley.
e) Good idea.
f) Not in favour.

Moved by D. Zerr
That the public involvement report be published with the final report.

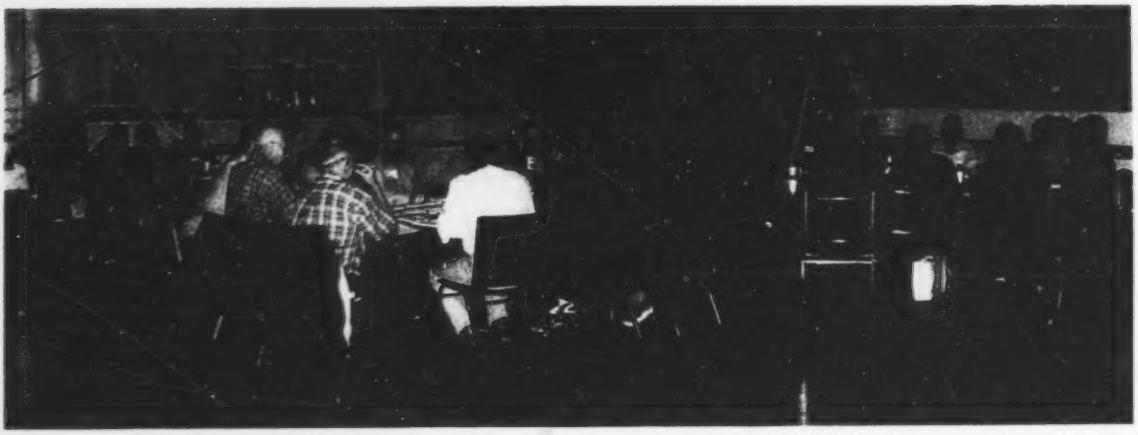
Motion carried.

Moved by K. Nerbas
That this group meet at the end of March for a report on the status of the implementation of the recommendations.

Motion carried.

I. Muzichuk noted that the Intensive Livestock Operation (ILO) barns have developed so quickly that they were not given major consideration in the Study. She recommended that provisions be made for environmental impact studies before further ILOs are approved.

J. Cheshuk recommended that the government should acknowledge the interest expressed and the catalyst initiated over the last four years, and recognize that there is a group of interested people prepared to carry this work forward.



6 Committee Membership

Please see pages 123 - 125 of the Main Report for the membership listing of the Local Watershed Committees.